Route 1
Project Study Report Overview

Santa Cruz Congestion Management Study

Project Study Report (PSR-PDS)

A report that describes the transportation problem and identifies the project scope, schedule and estimated cost so that the project can be programmed for environmental studies.

Caltrans

Santa Cruz CALIFORNIA 1
Congestion Management Study

Two PSRs Developed

(1) Widening with Interchange Modifications

(2) Auxiliary Lanes with Ramp Metering

Santa Cruz CALIFORNIA 1
Congestion Management Study

Range of Alternatives

- Widening for High Occupancy Vehicles (HOV)
- Widening for Mixed Flow Vehicles
- Widening for High Occupancy Toll (HOT)
- Interchange/Ramp Improvements
- Auxiliary Lanes at Various Locations
- Ramp Metering (with all build alternatives)
- No Build

Project Purpose

- To facilitate more efficient and safe operations of Route 1 as measured by congestion, travel times, mobility and accidents.

- To discourage reliance on single-occupant vehicle travel by improving travel conditions and interconnectivity for transit and high occupancy vehicles.

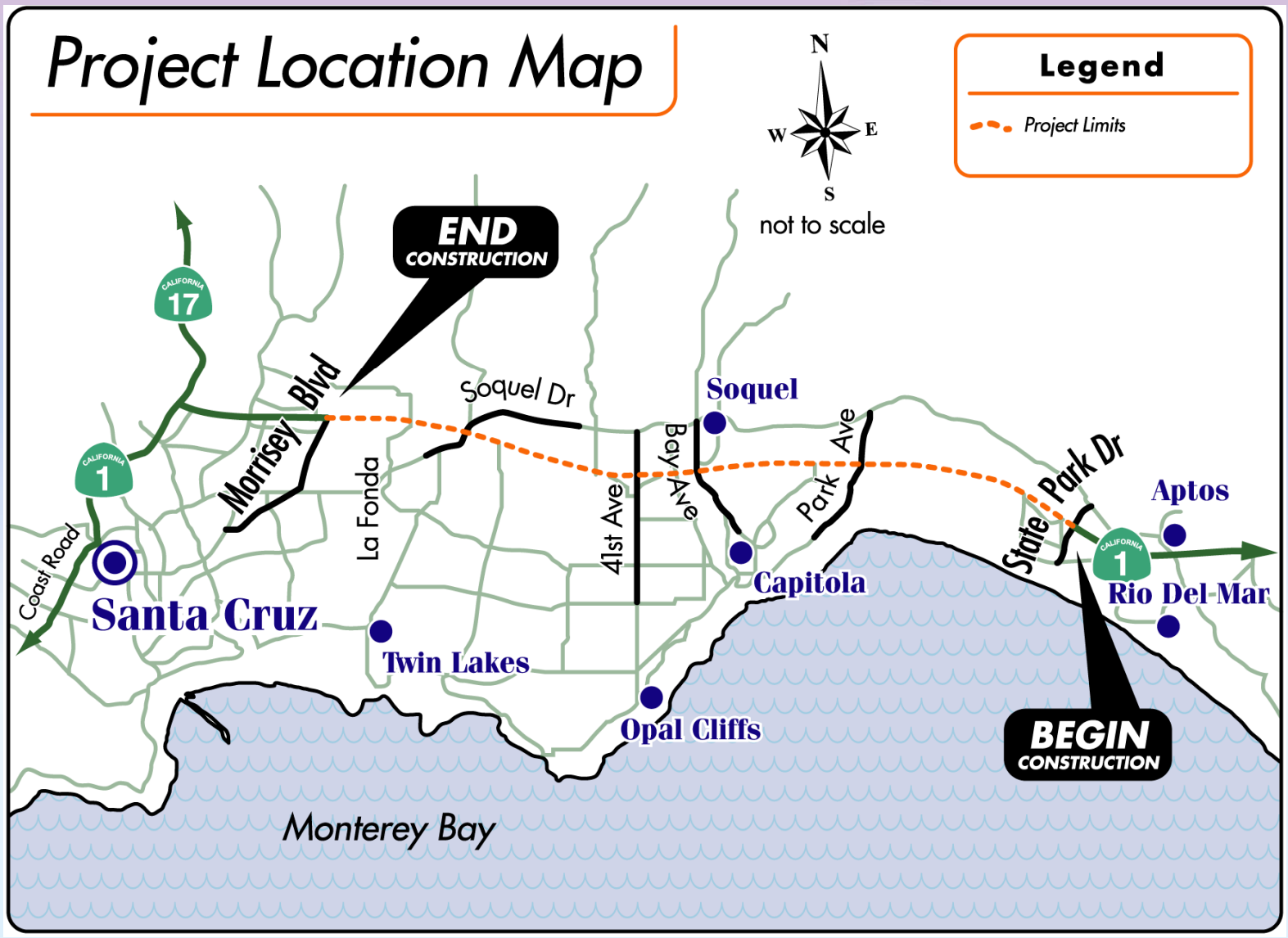
- To maximize the utility of any additional capacity that is created.

Presentation Team

Rich Krumholz	Transportation Planner
Claudia Espino	Senior Design Engineer
Scott Eades	Transportation Engineer
Luis Duazo	Project Manager

PROJECT LOCATION MAP

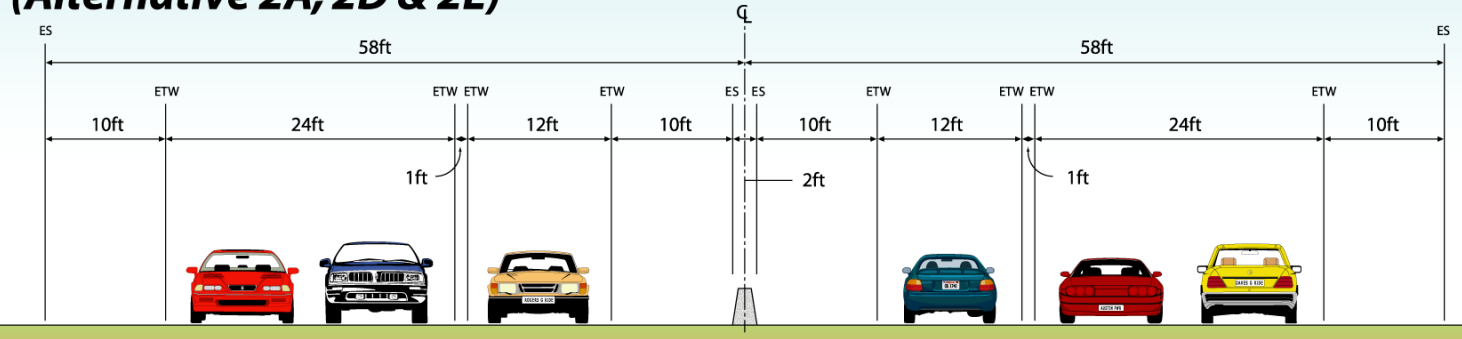
Congestion Management Study



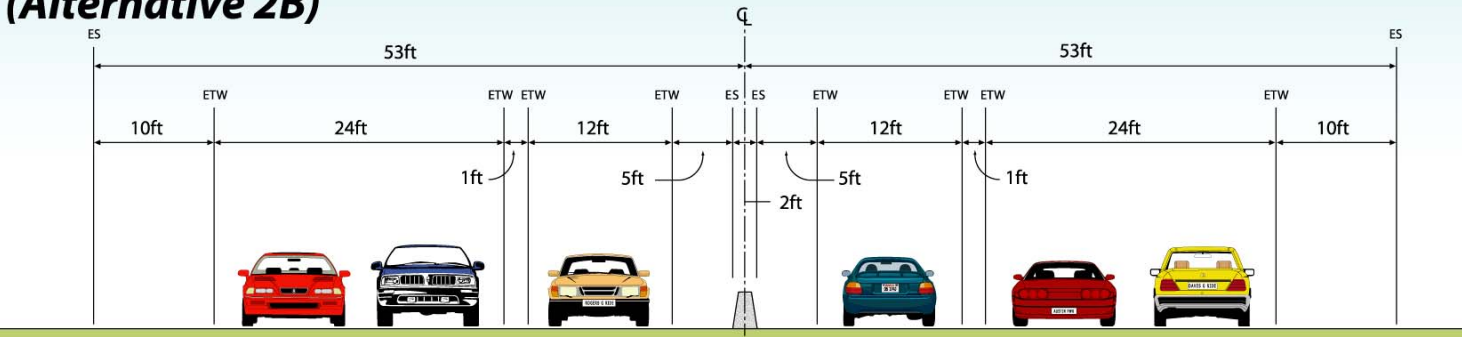
CROSS SECTIONS

Congestion Management Study

HOV/HOT Striped Separated Alternative (Alternative 2A, 2D & 2E)



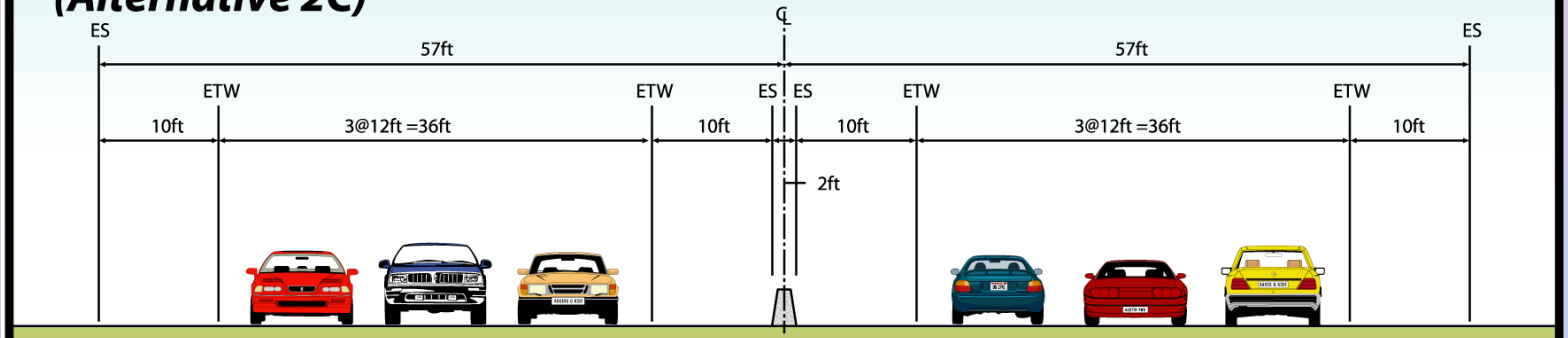
HOV Striped Separated Alternative (Non-Standard Median Width) (Alternative 2B)



CROSS SECTIONS

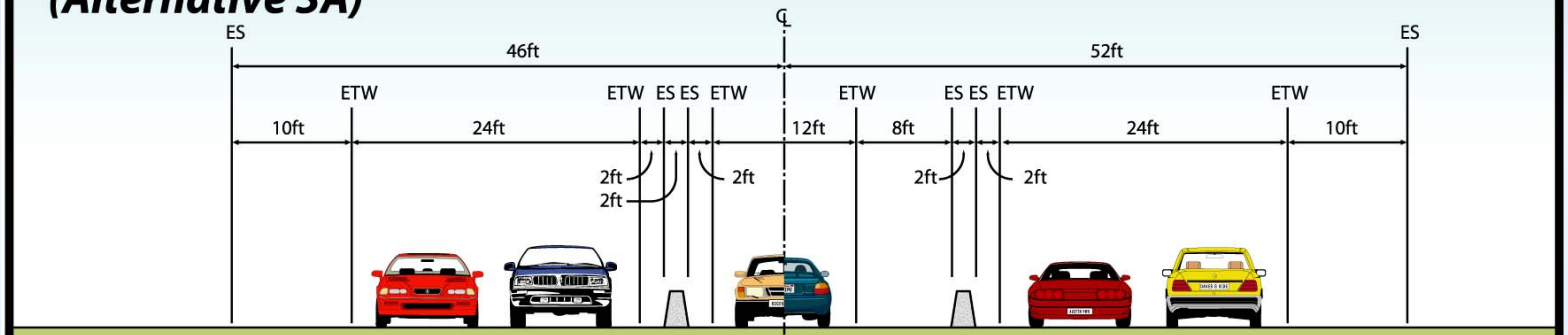
Congestion Management Study

Mixed Flow Alternative
(Alternative 2C)



not to scale

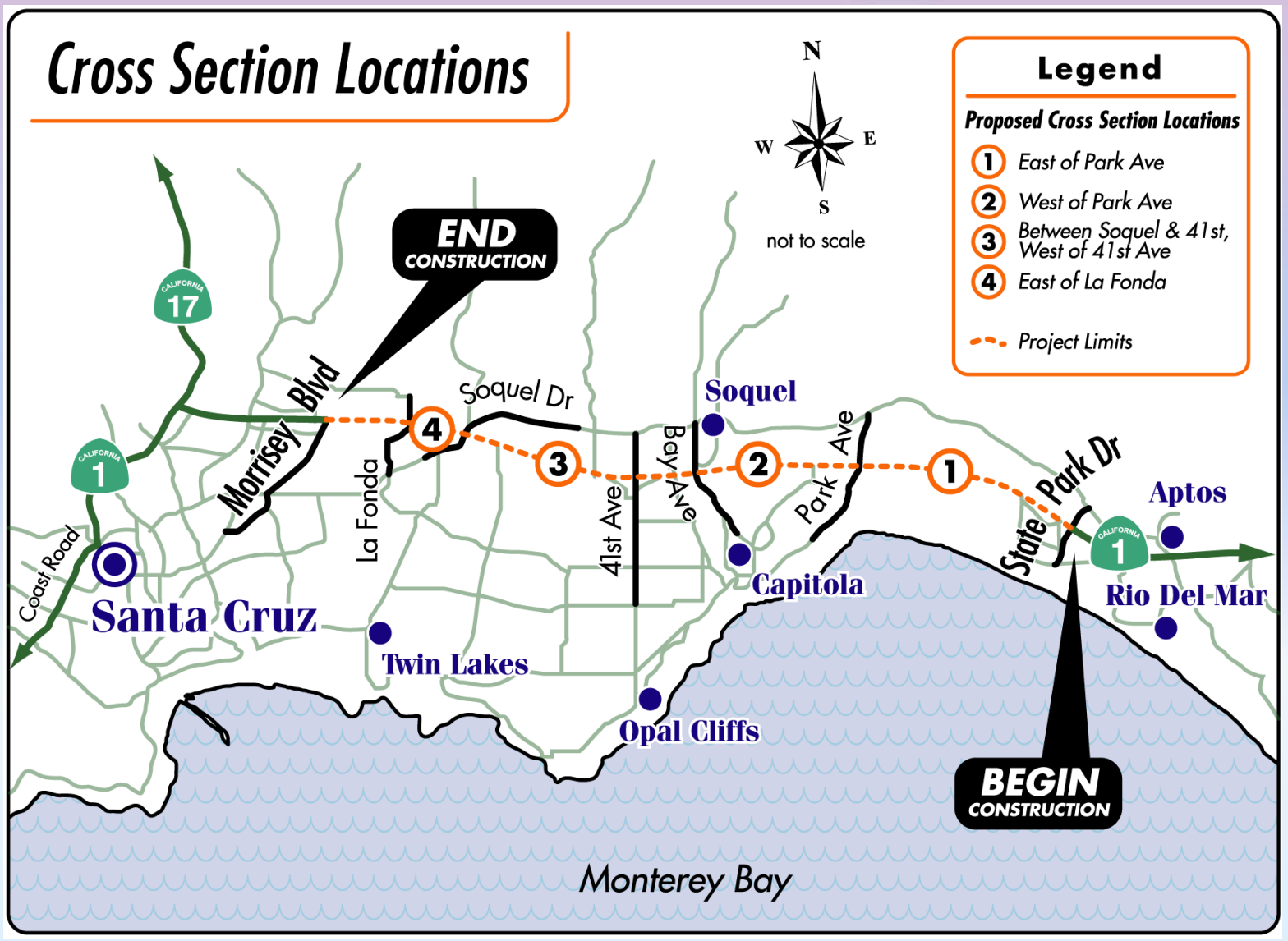
HOV Reversible One Lane Alternative
(Alternative 3A)



not to scale

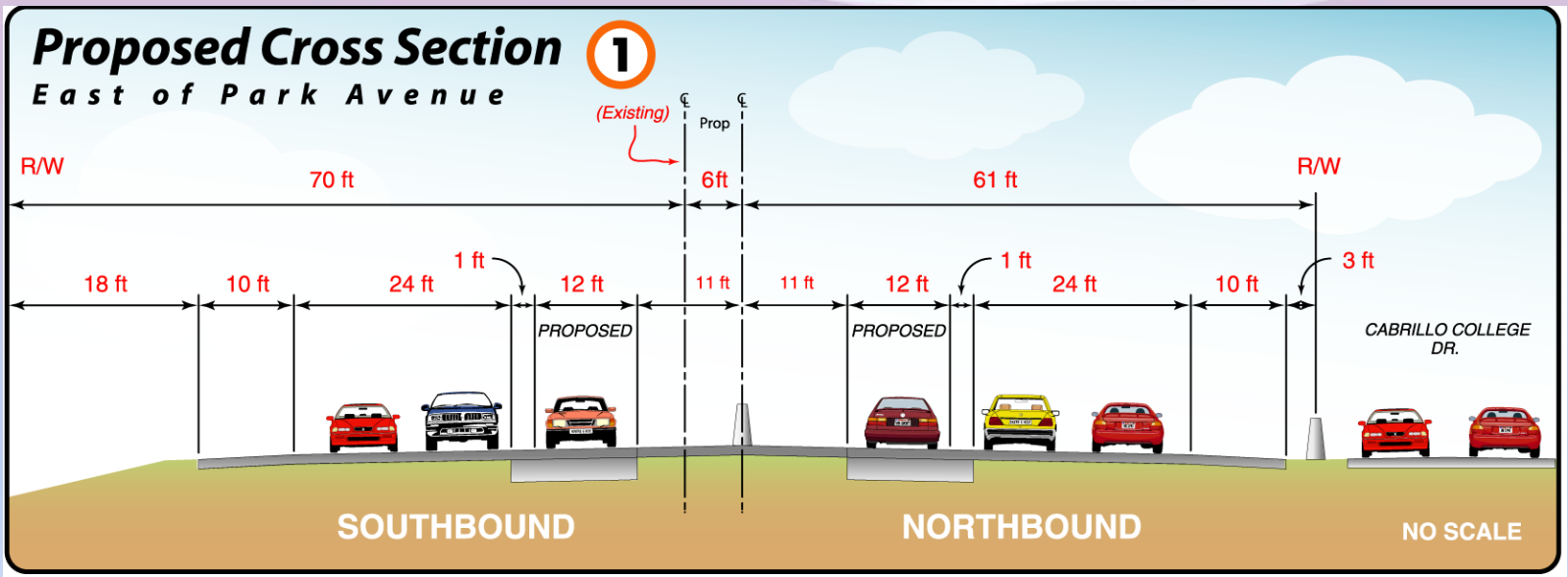
CROSS SECTION LOCATIONS

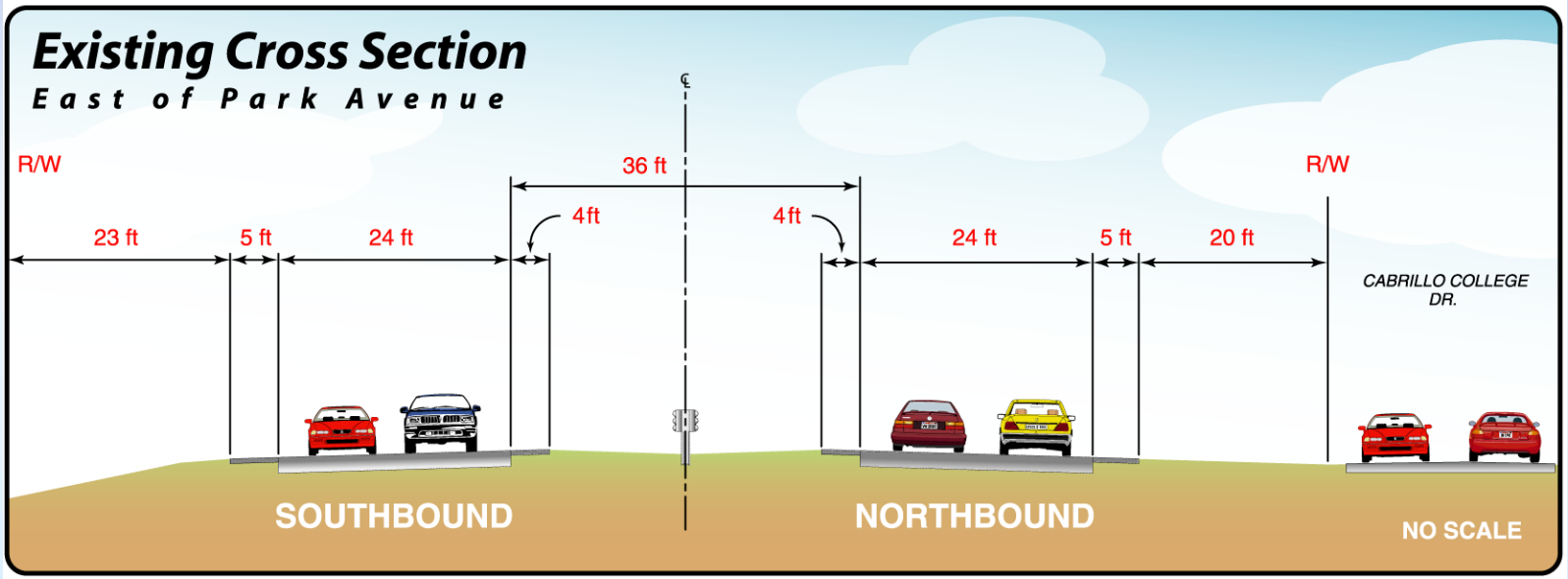
Congestion Management Study



CROSS SECTIONS

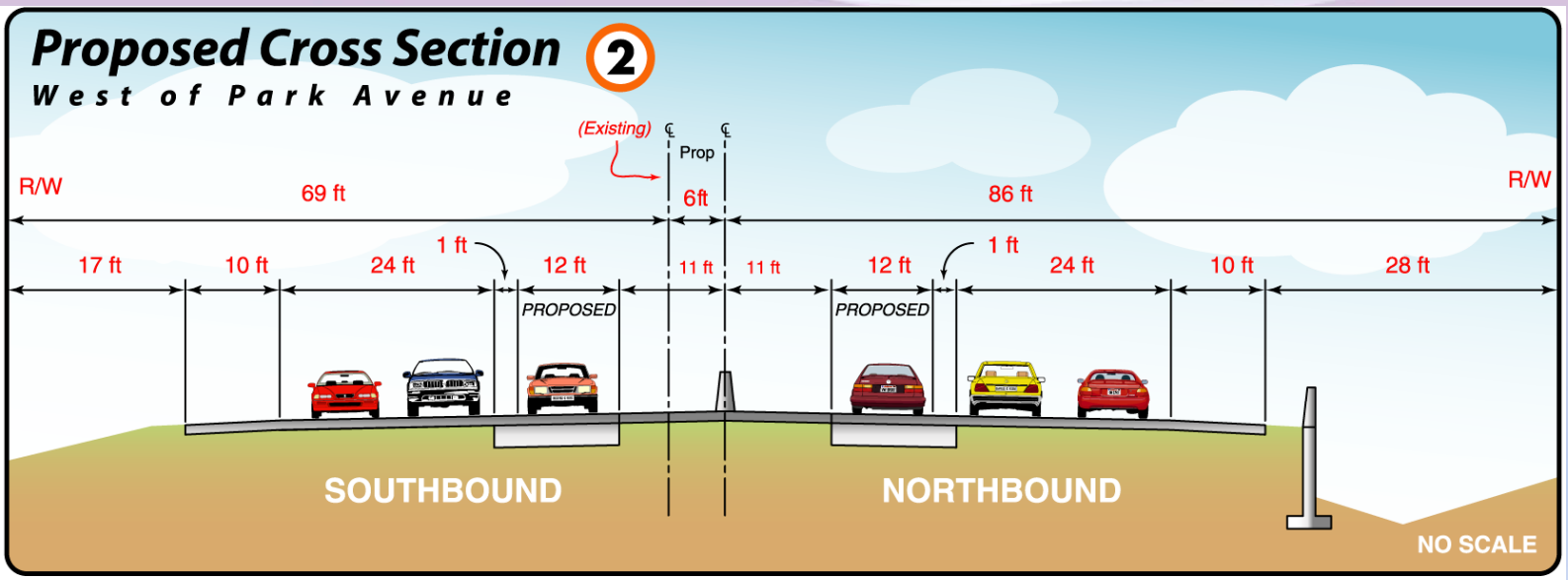
Congestion Management Study

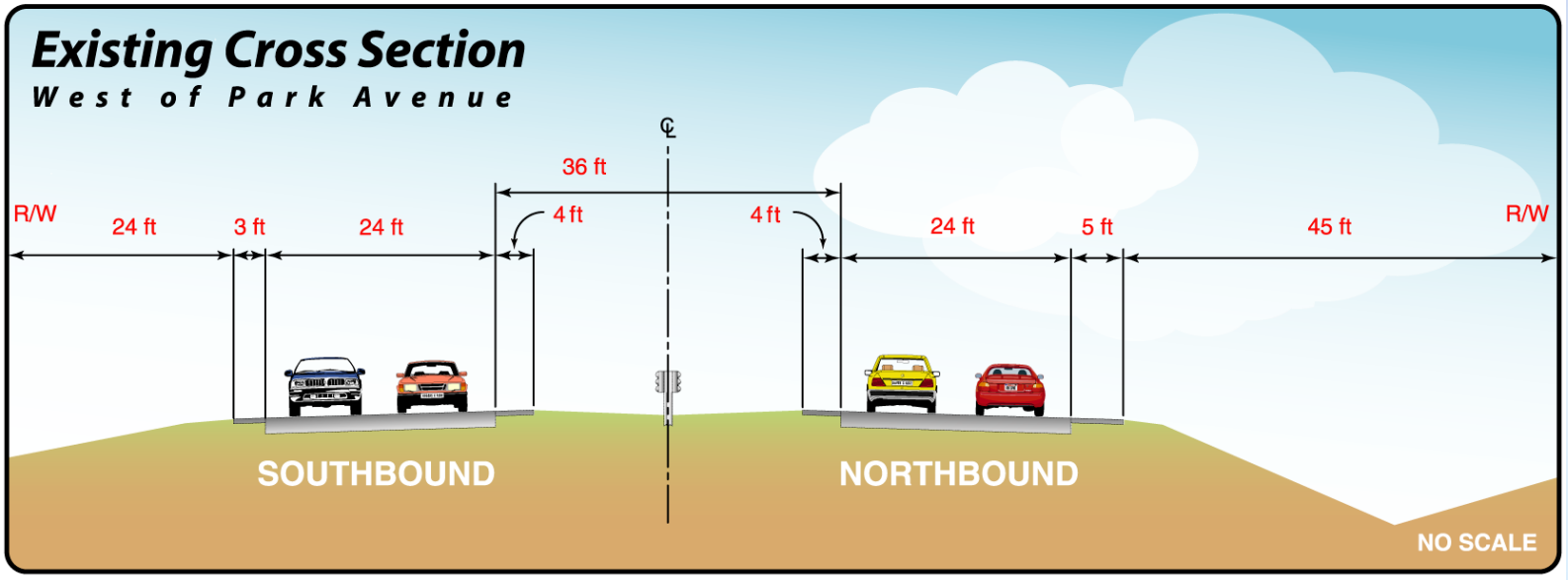




CROSS SECTIONS

Congestion Management Study





CROSS SECTIONS

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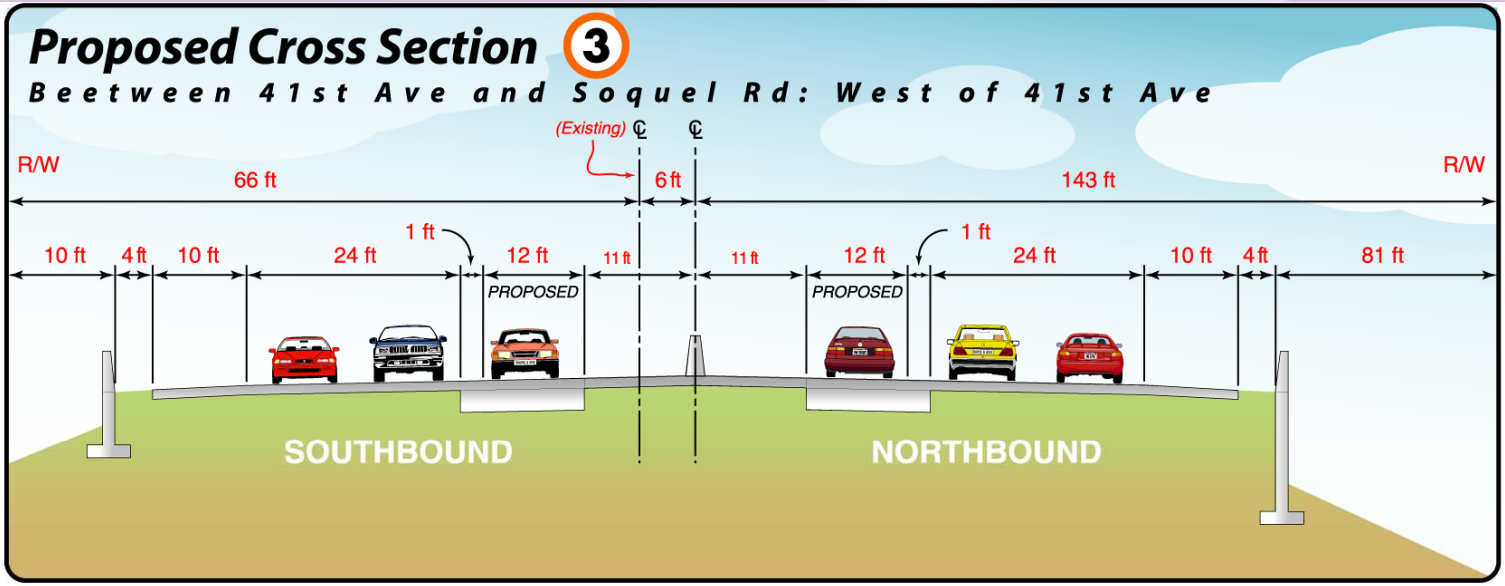
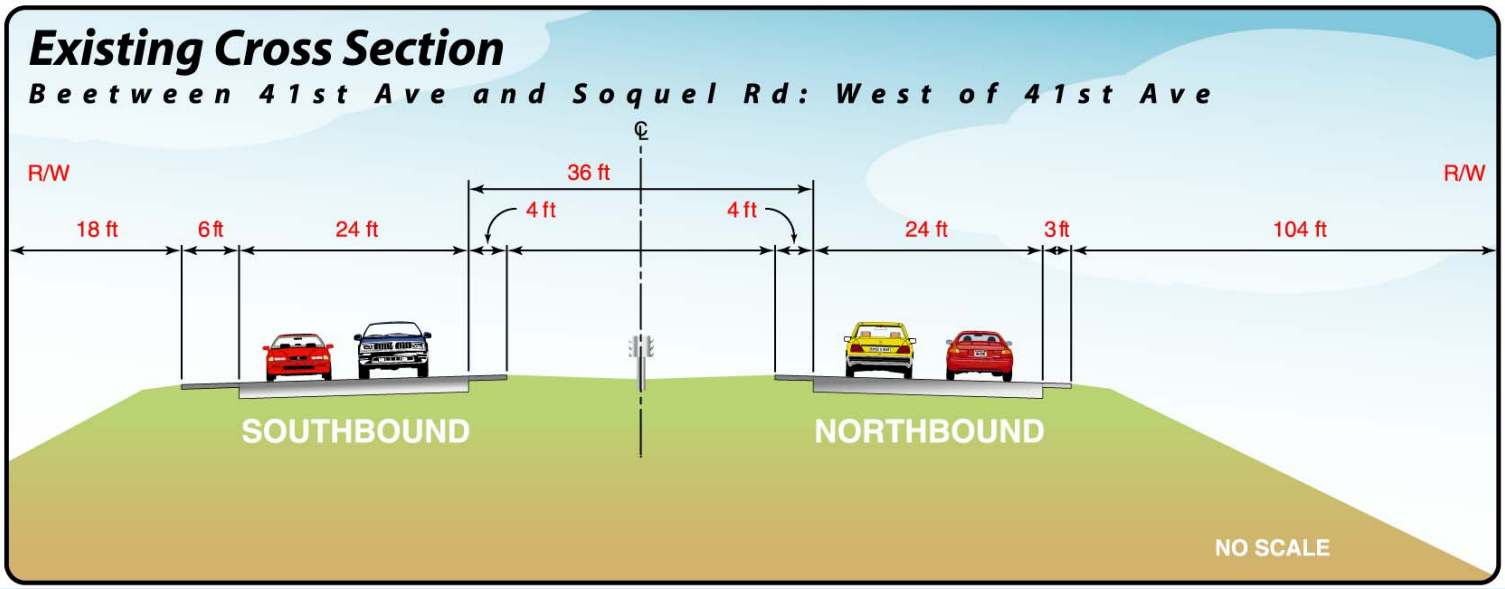
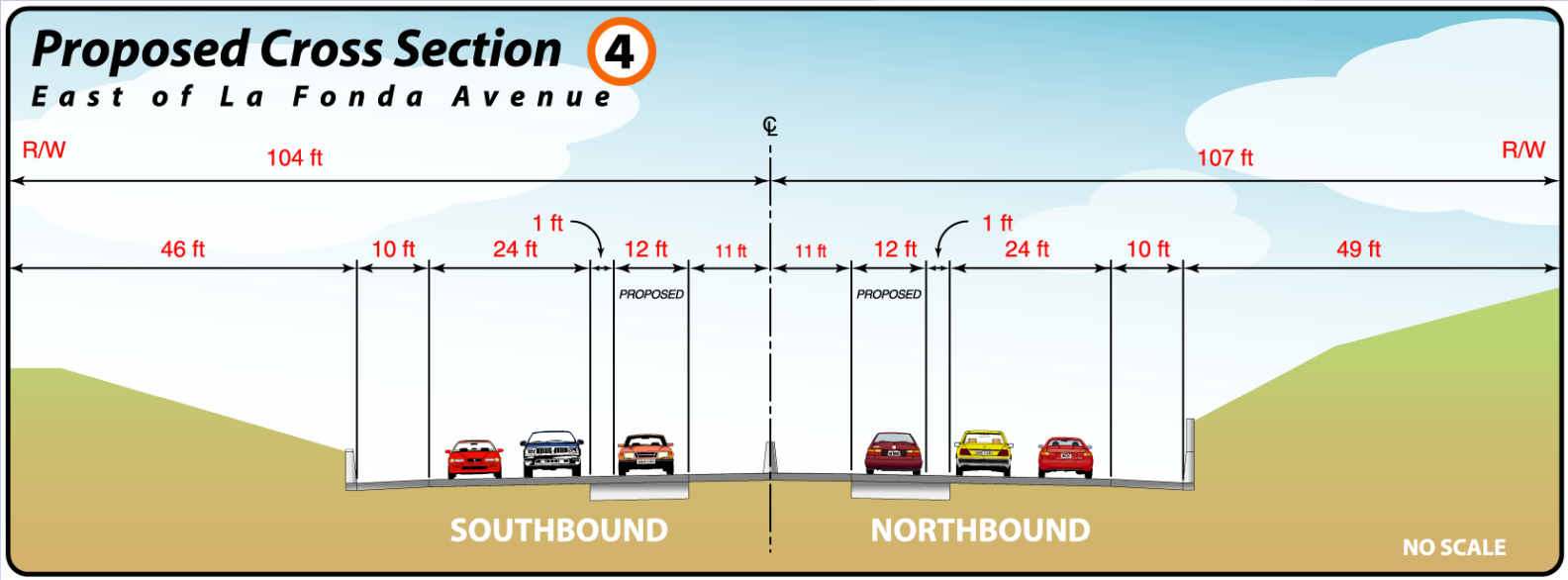
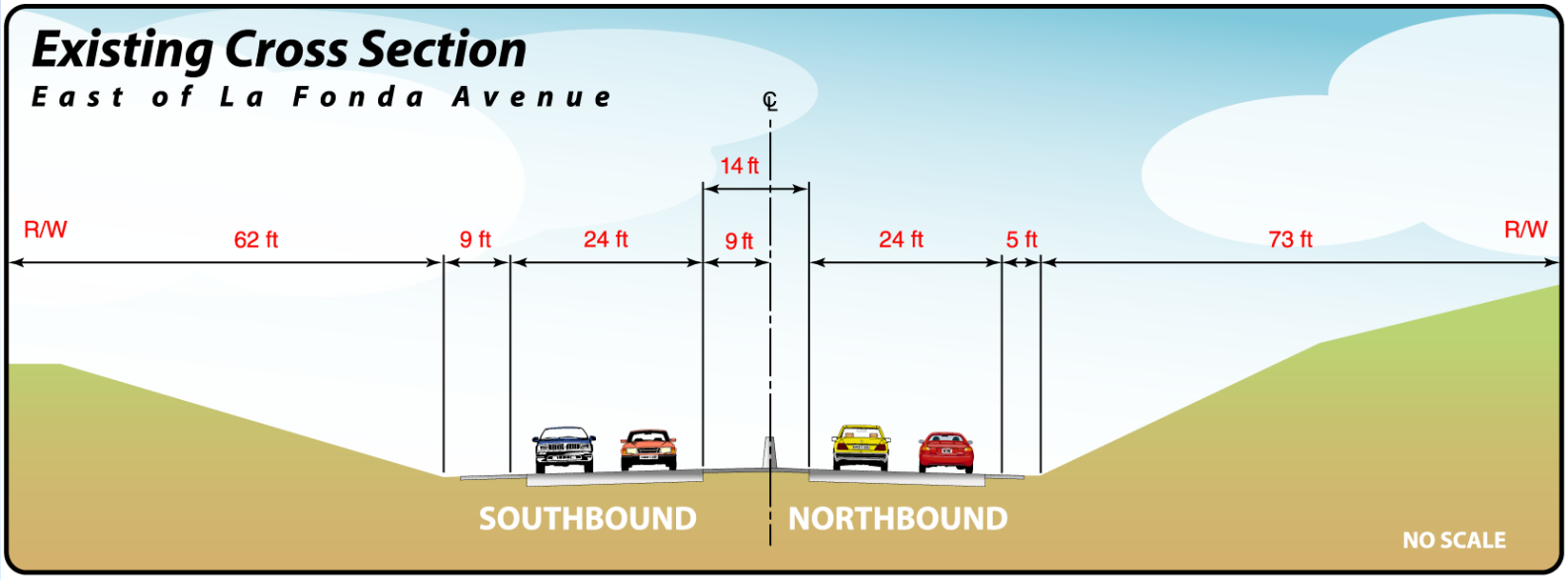




CROSS SECTIONS

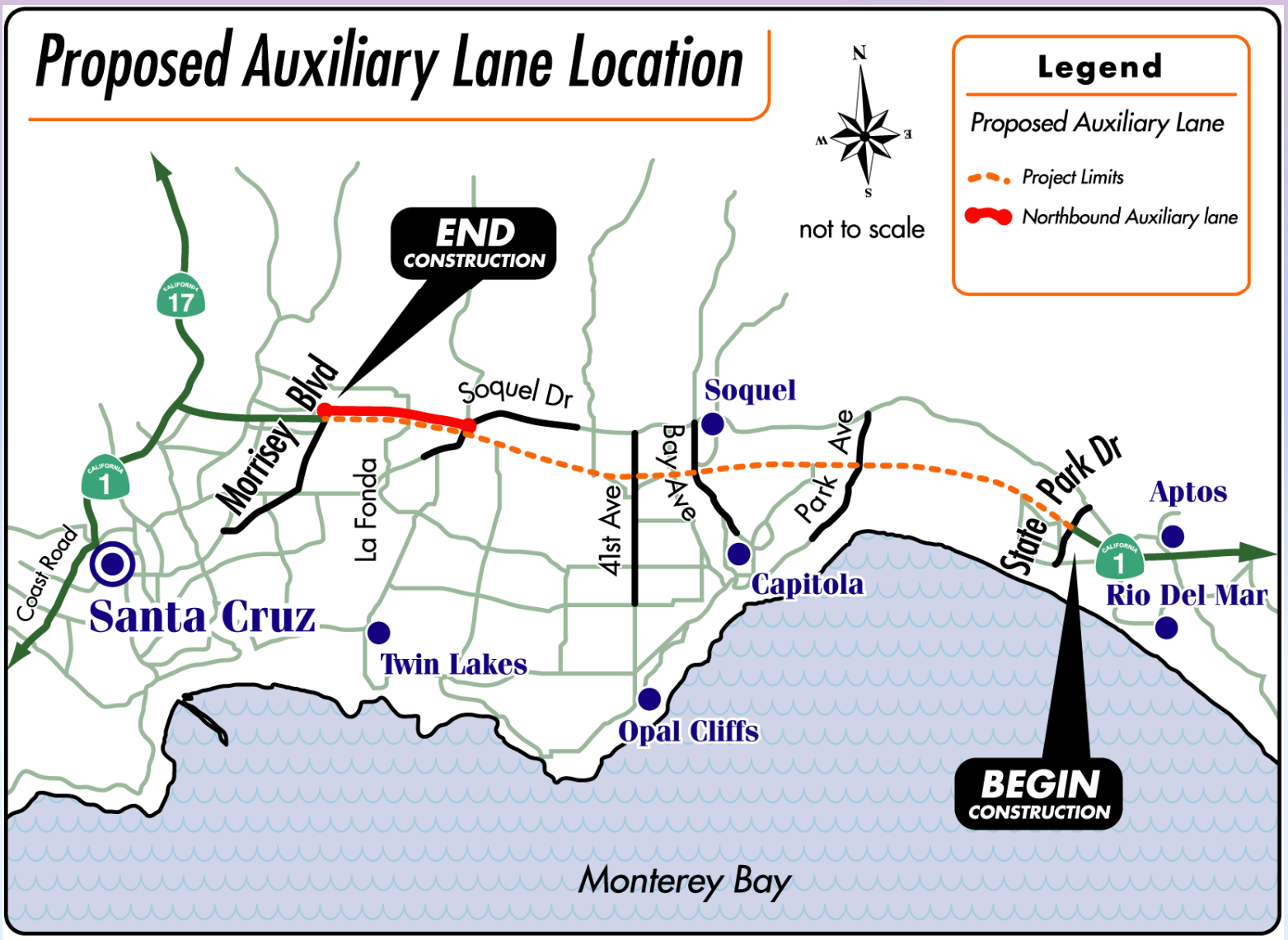
Congestion Management Study





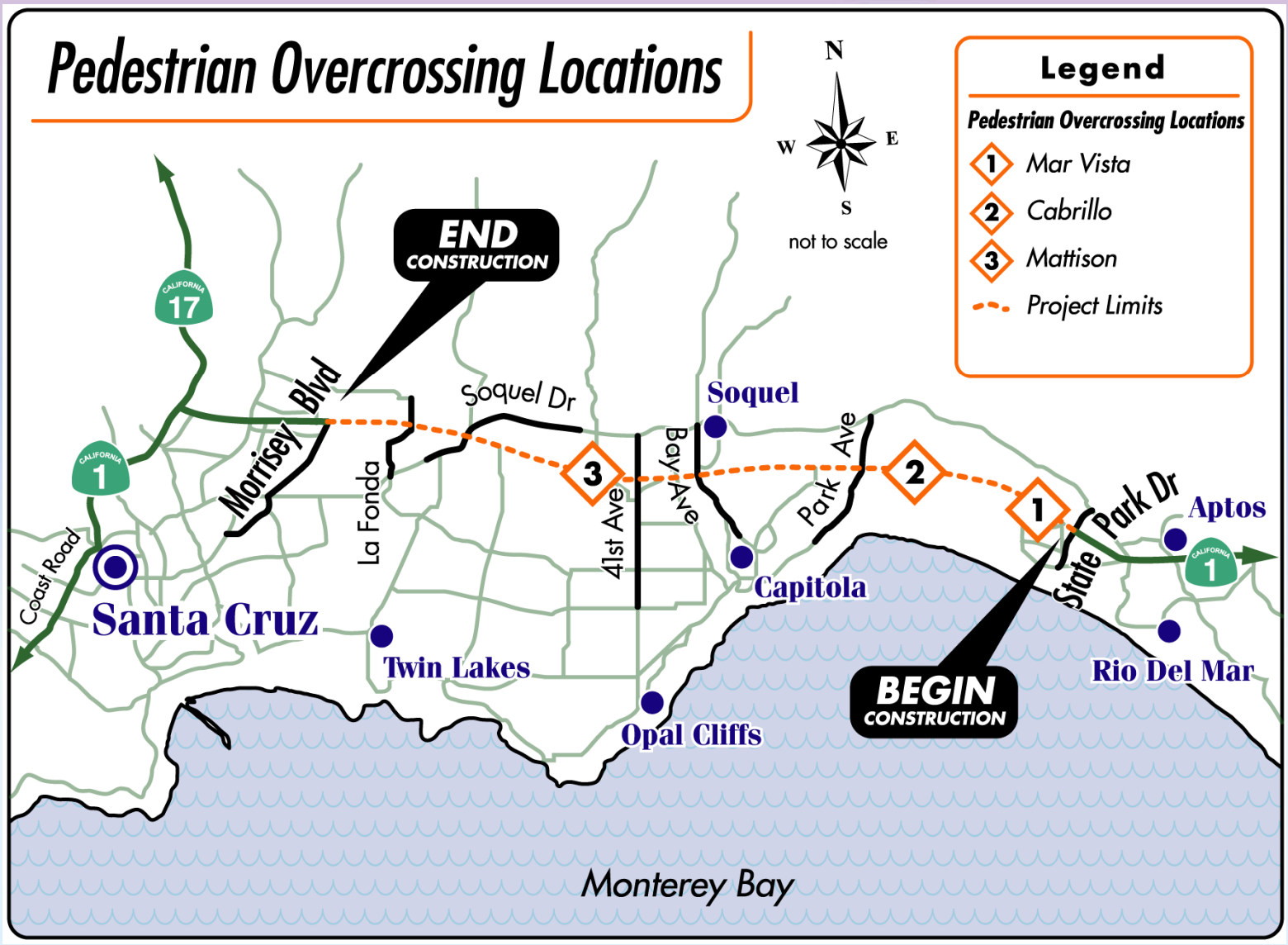
AUXILIARY LANE LOCATIONS

Congestion Management Study



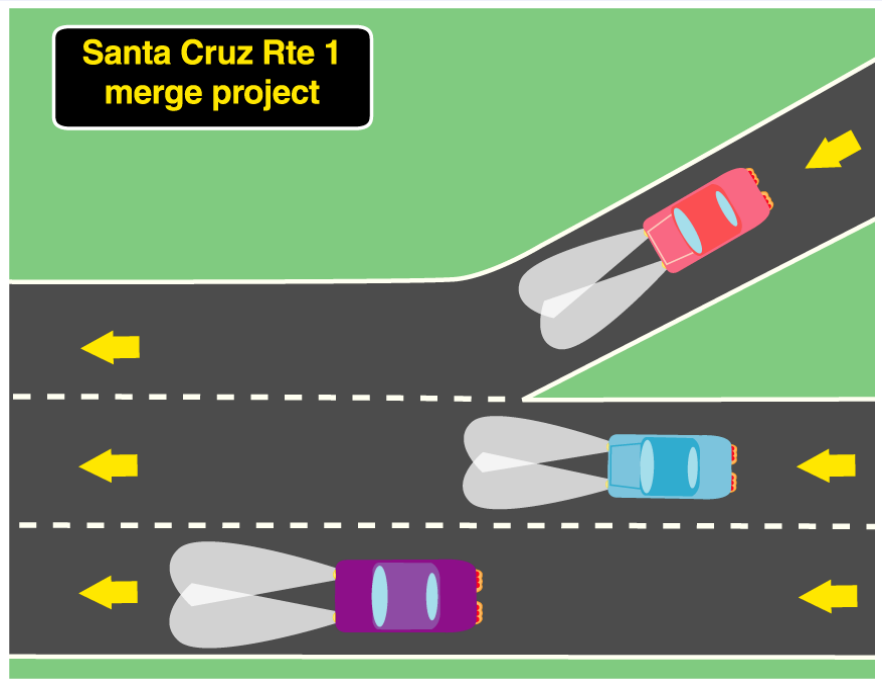
PEDESTRIAN OVERCROSSING LOCATIONS

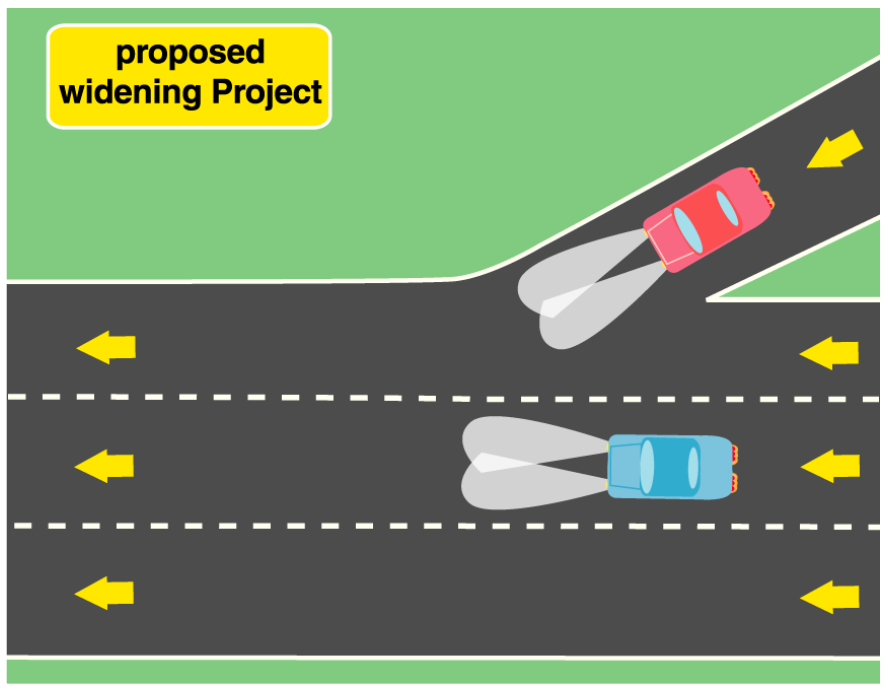
Congestion Management Study



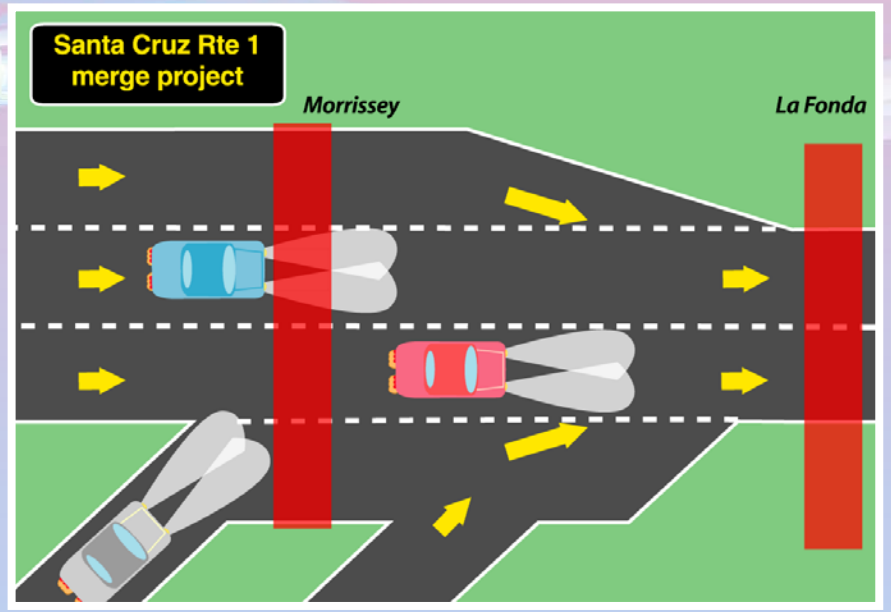
Santa Cruz Congestion Management Study

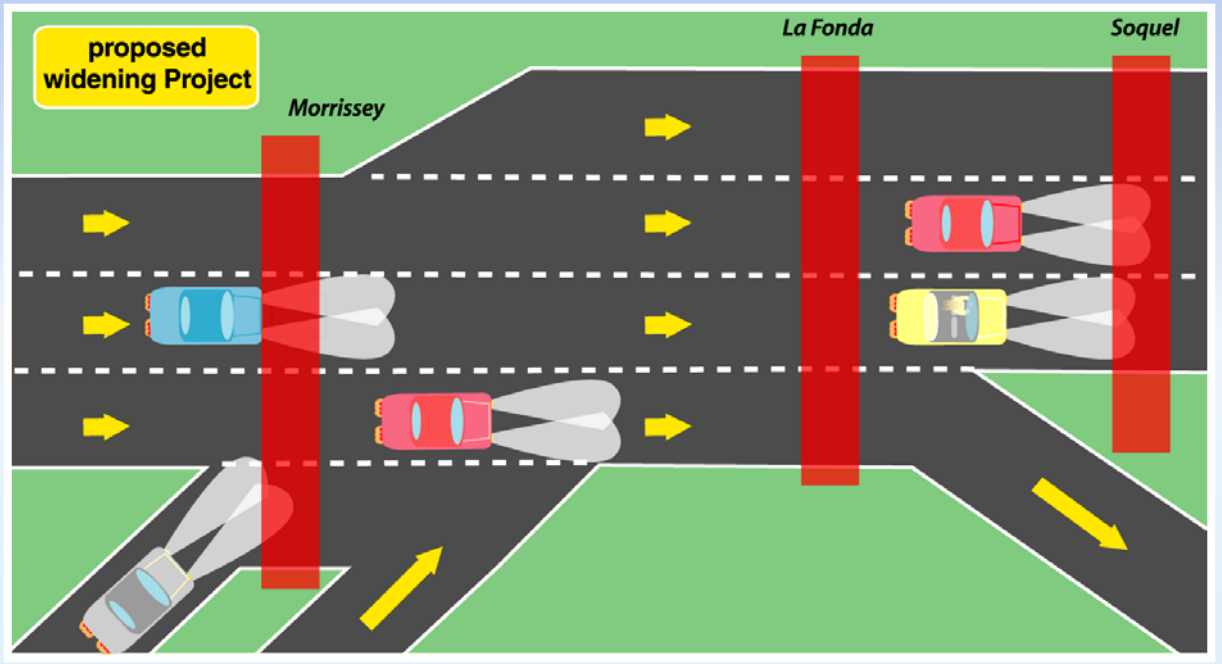
On Route 1 Northbound at Morrissey On Ramp





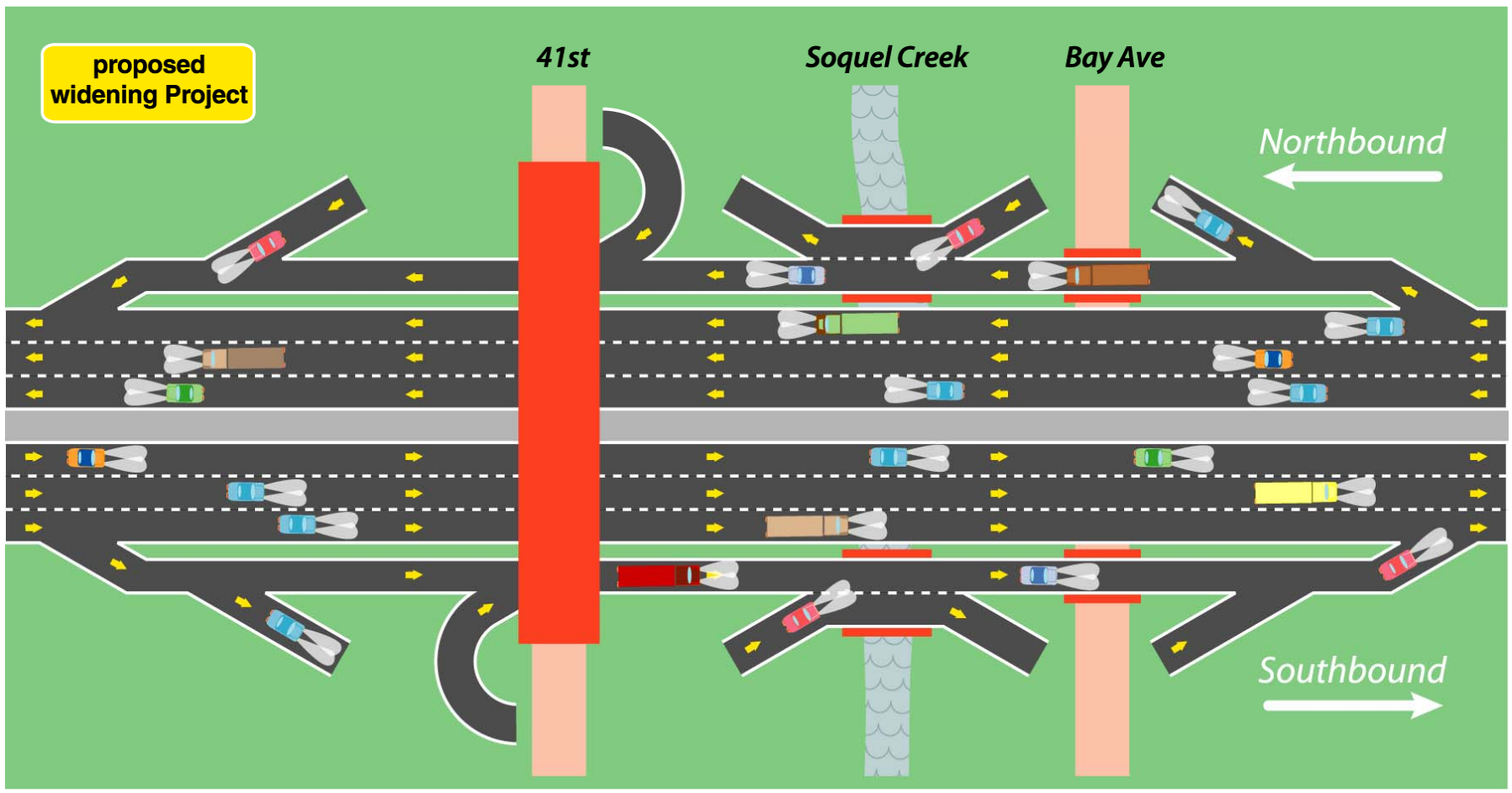
On Route 1 Southbound at Morrissey Off Ramp





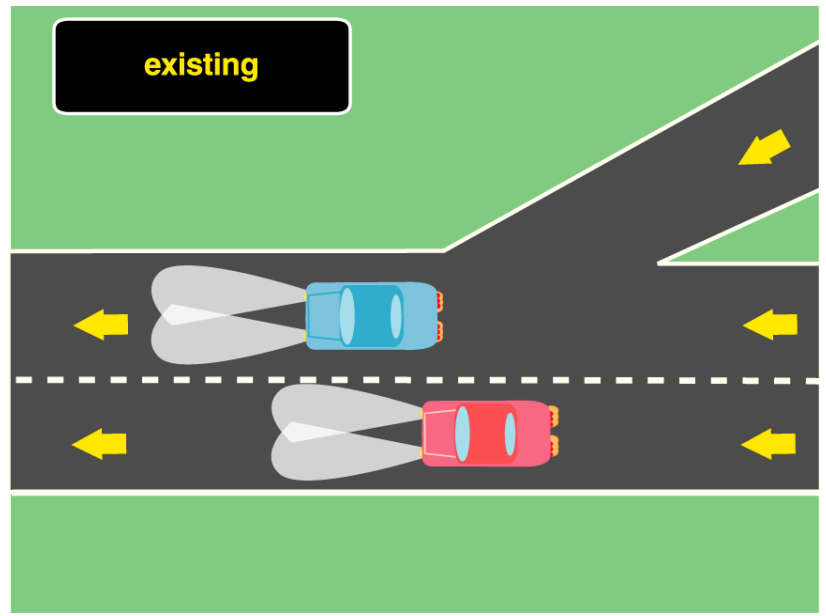
Santa Cruz
CALIFORNIA 1
Congestion Management Study

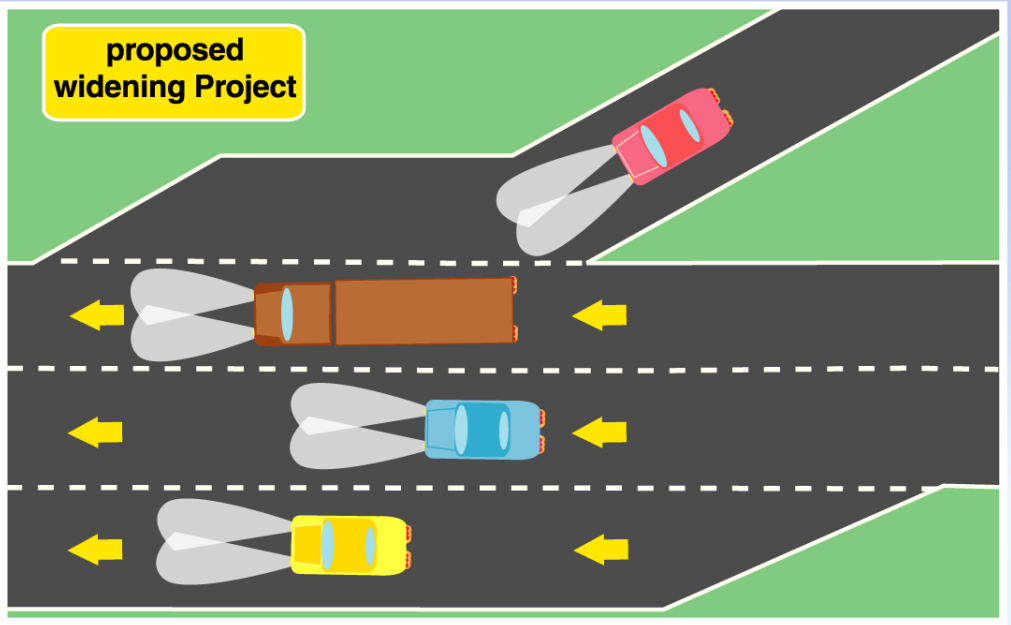
41st and Bay



Santa Cruz
CALIFORNIA 1
Congestion Management Study

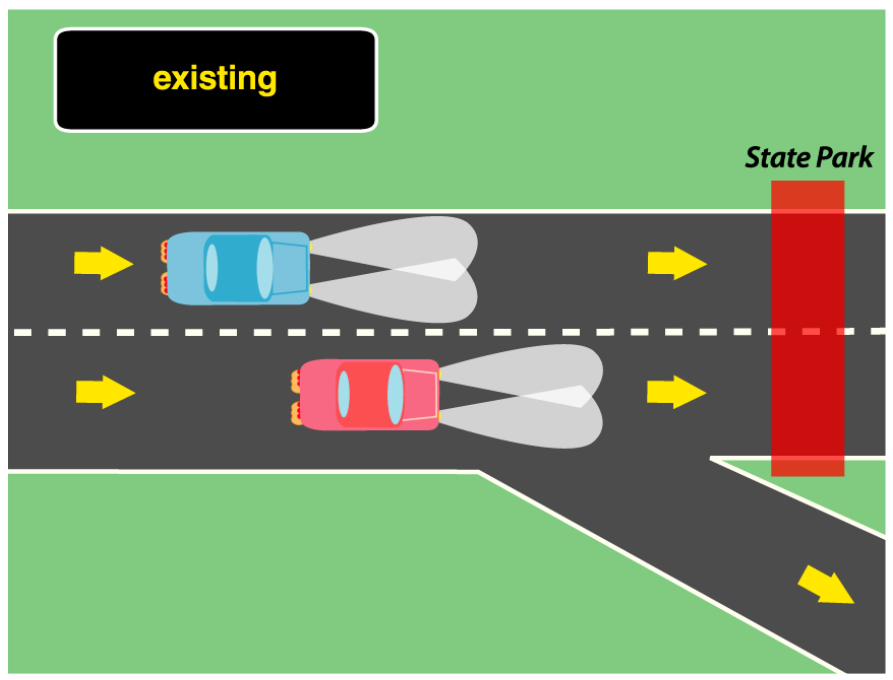
On Route 1 Northbound at State Park On Ramp

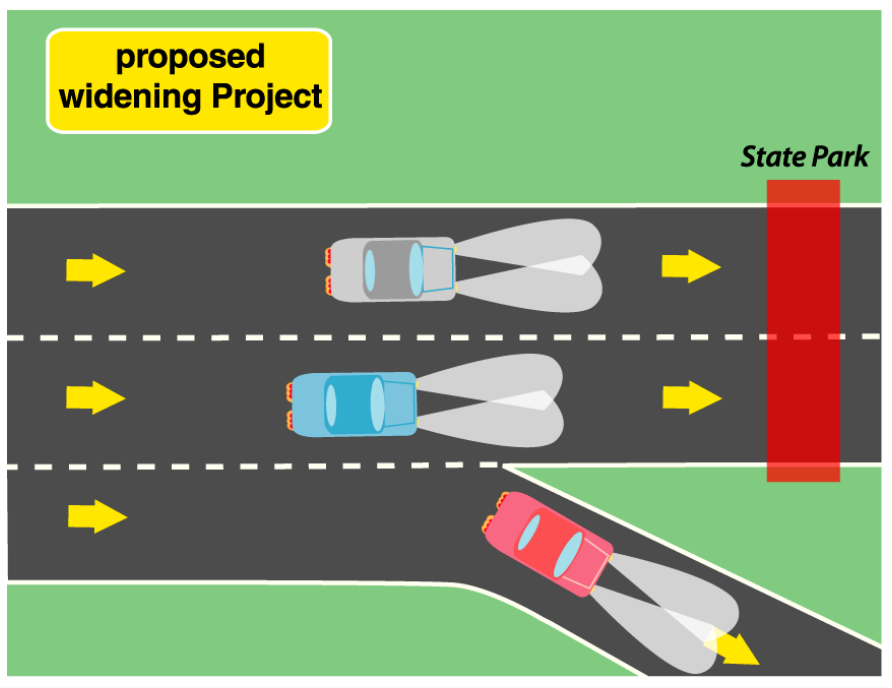




Santa Cruz 1 Congestion Management Study

On Route 1 Southbound at State Park On Ramp





Santa Cruz

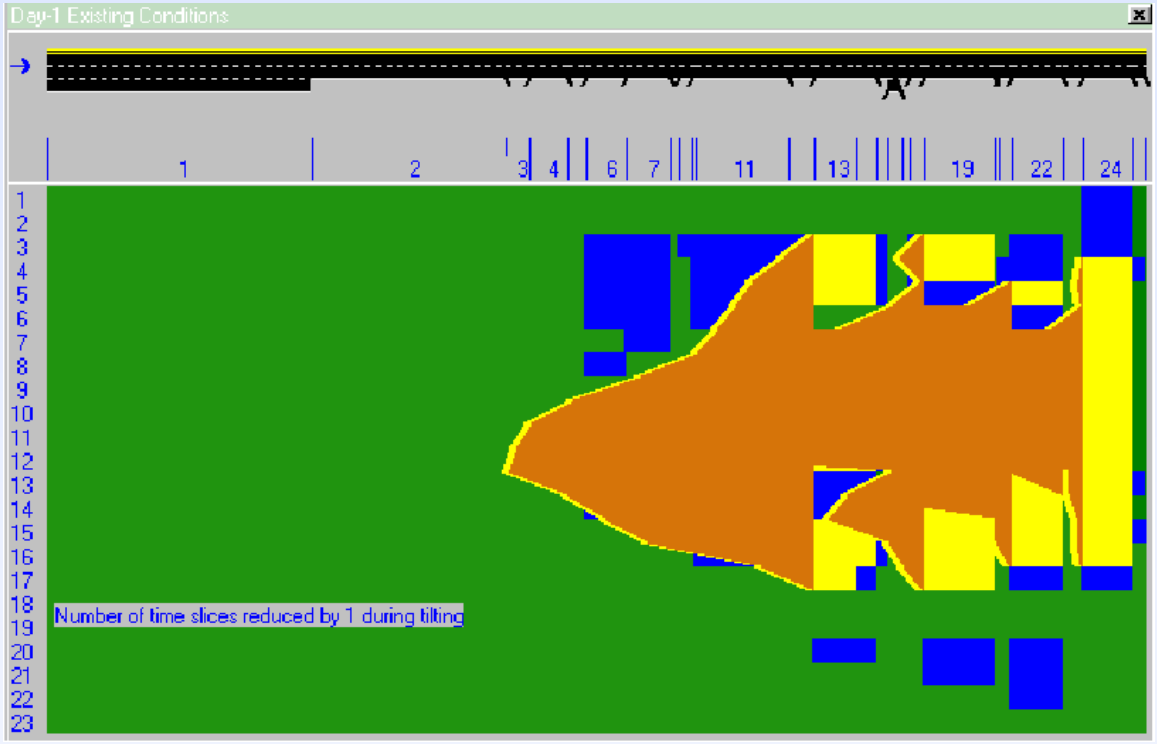
CALIFORNIA 1

Congestion Management Study

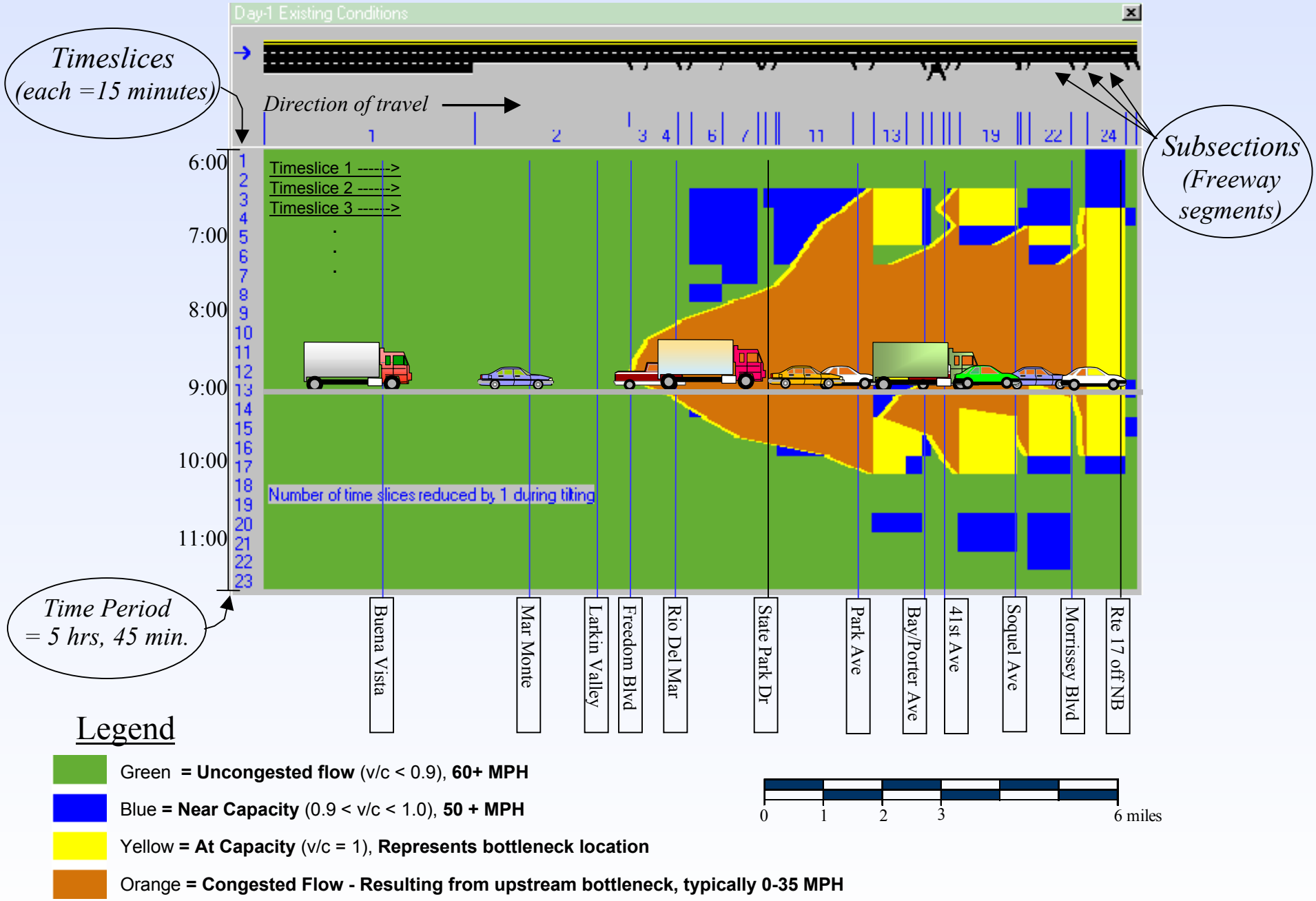
Traffic Analysis

FREQ Output:

Northbound AM: Existing Configuration



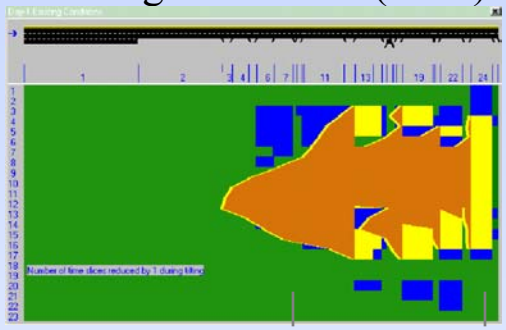
Sample FREQ Output - *Northbound*



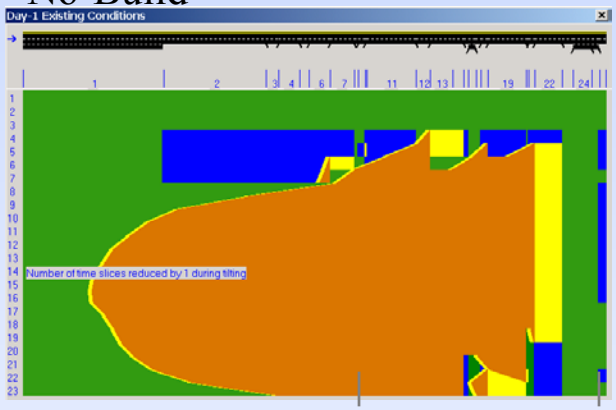
Northbound AM

Alternatives Analysis (with 2020 Volumes)

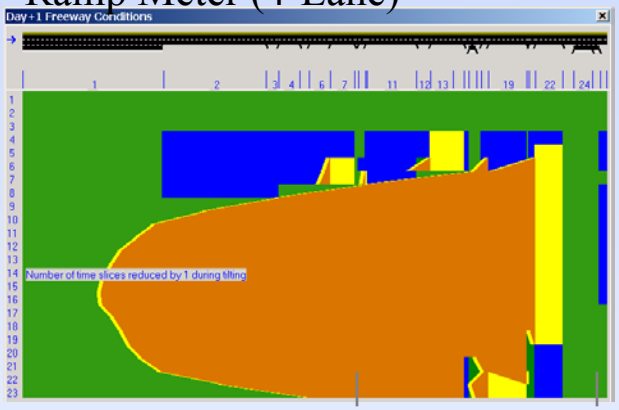
Existing Conditions (2001)



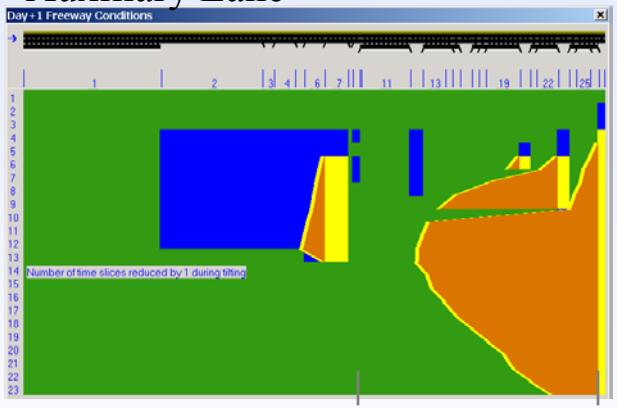
No-Build



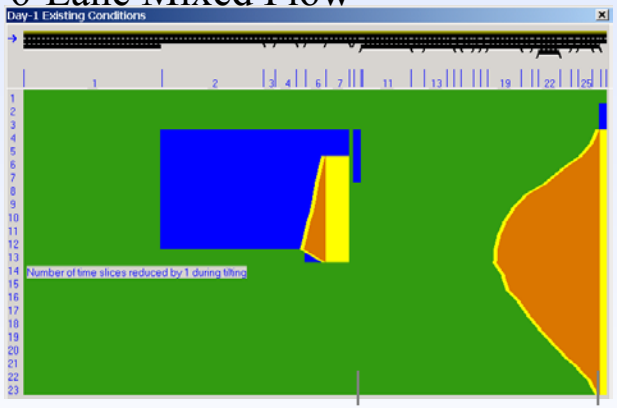
Ramp Meter (4-Lane)



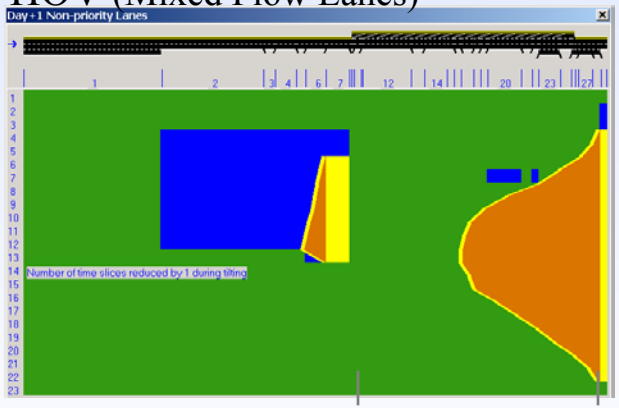
Auxiliary Lane



6-Lane Mixed Flow

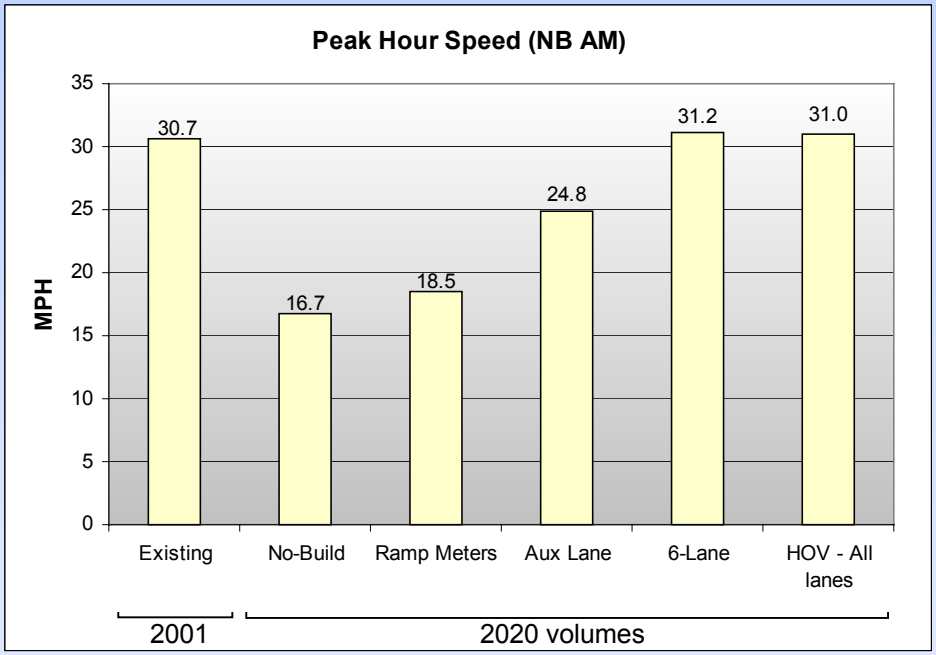


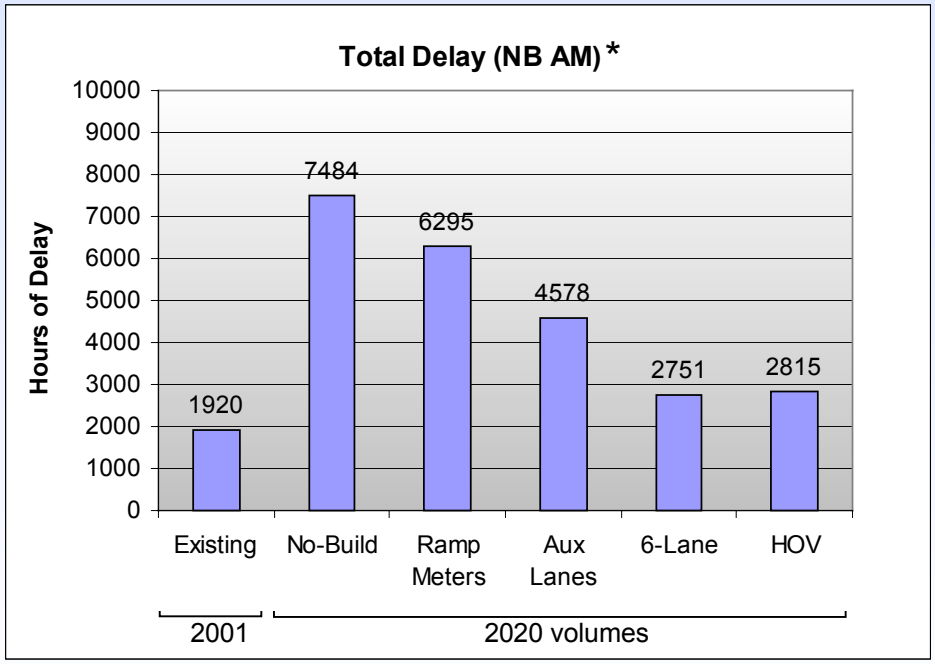
HOV (Mixed Flow Lanes)

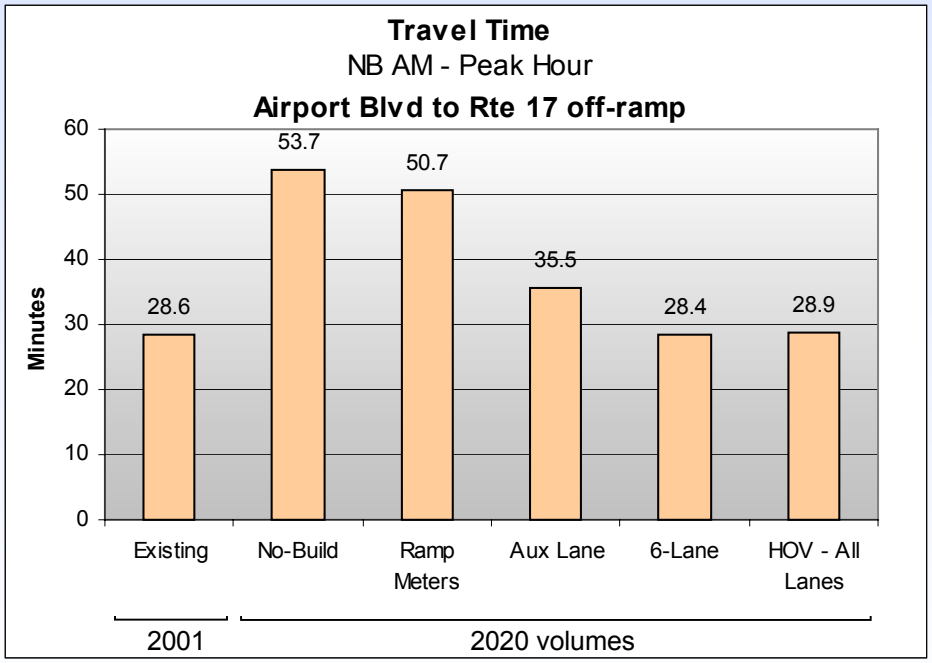


Green = Uncongested (v/c < 0.9) Blue = Near Capacity (0.9 < v/c < 1.0) Yellow = At Capacity (v/c = 1) Orange = Congested Flow

Northbound AM





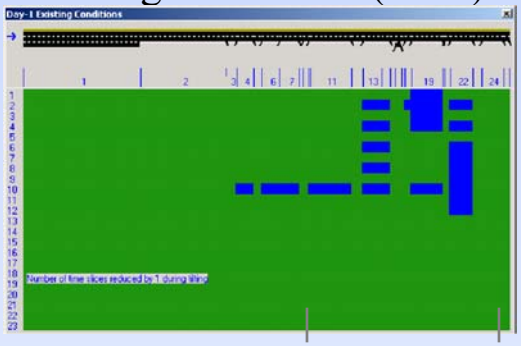


*during the 6 hour peak period (6am-Noon)

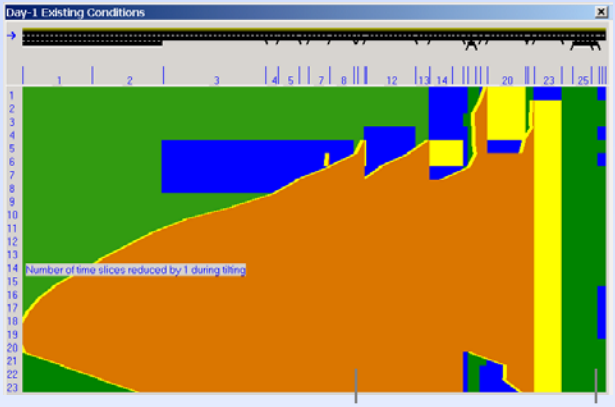
Northbound PM

Alternatives Analysis (with 2020 Volumes)

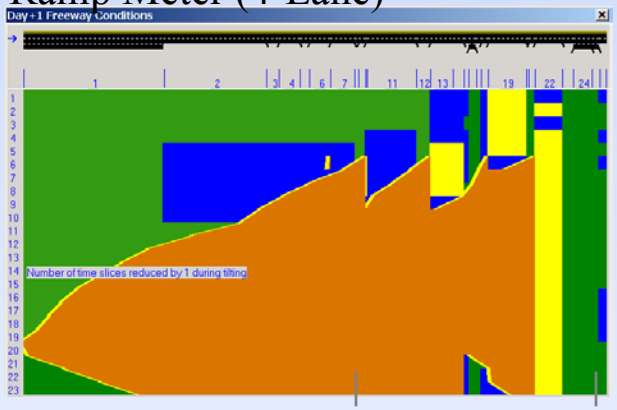
Existing Conditions (2001)



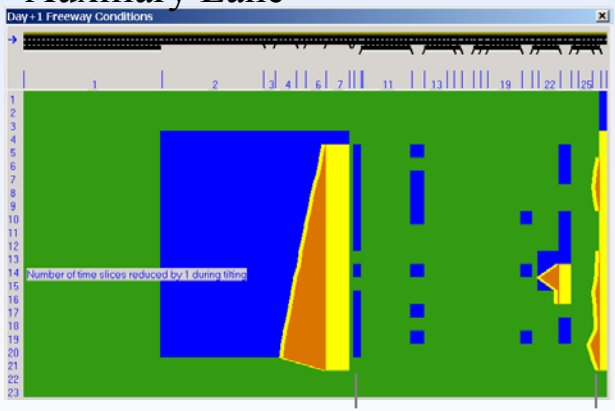
2020 No-Build



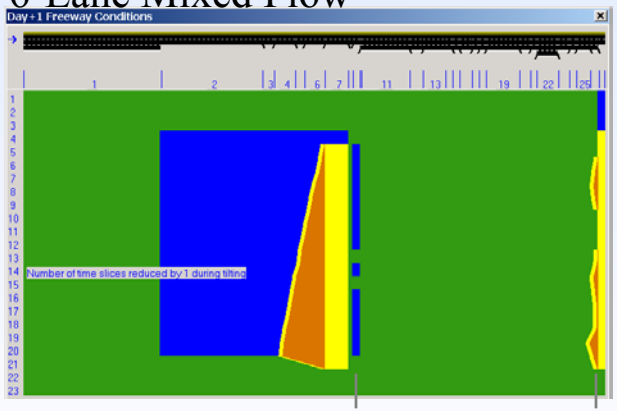
Ramp Meter (4-Lane)



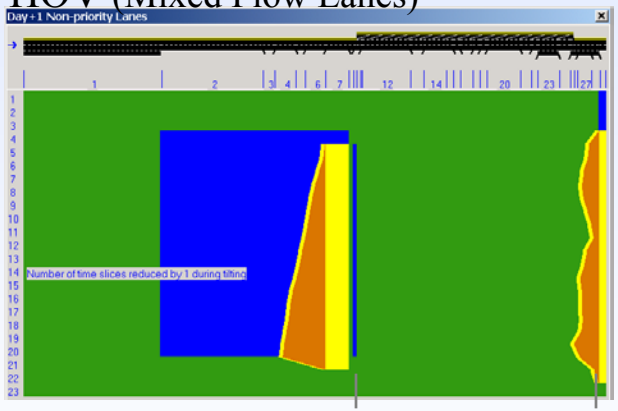
Auxiliary Lane



6-Lane Mixed Flow

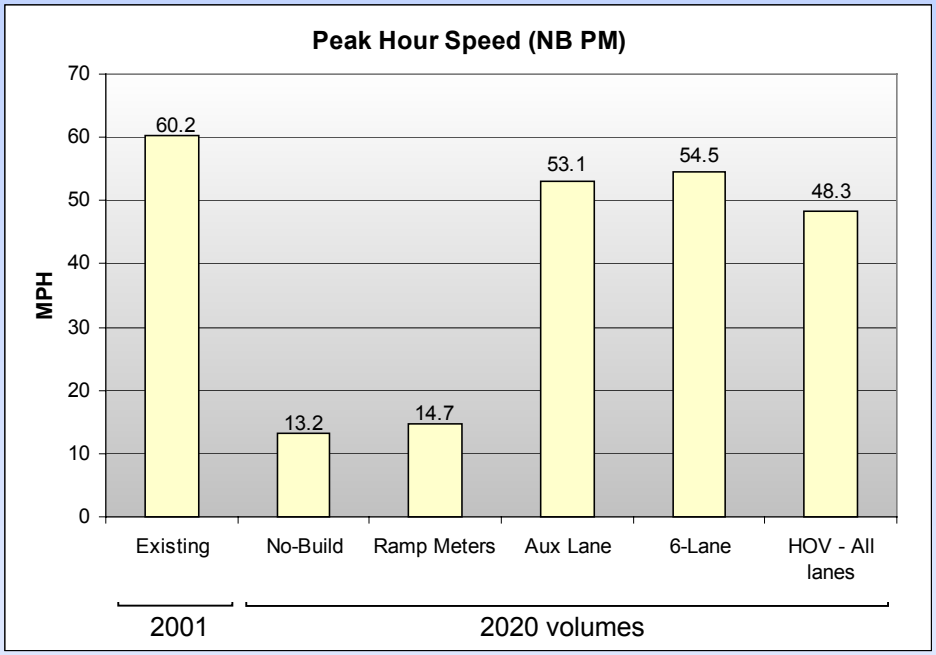


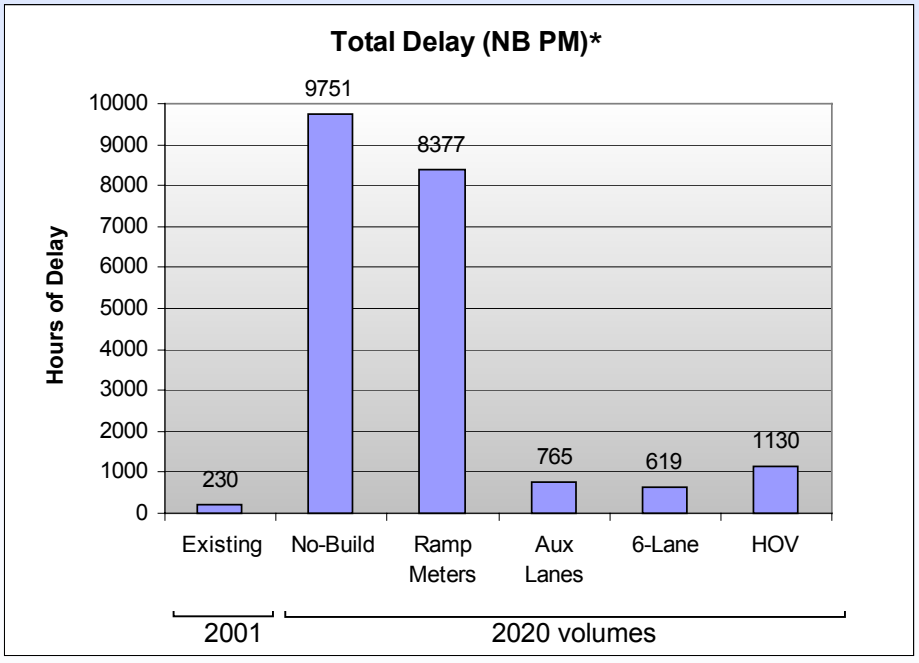
HOV (Mixed Flow Lanes)

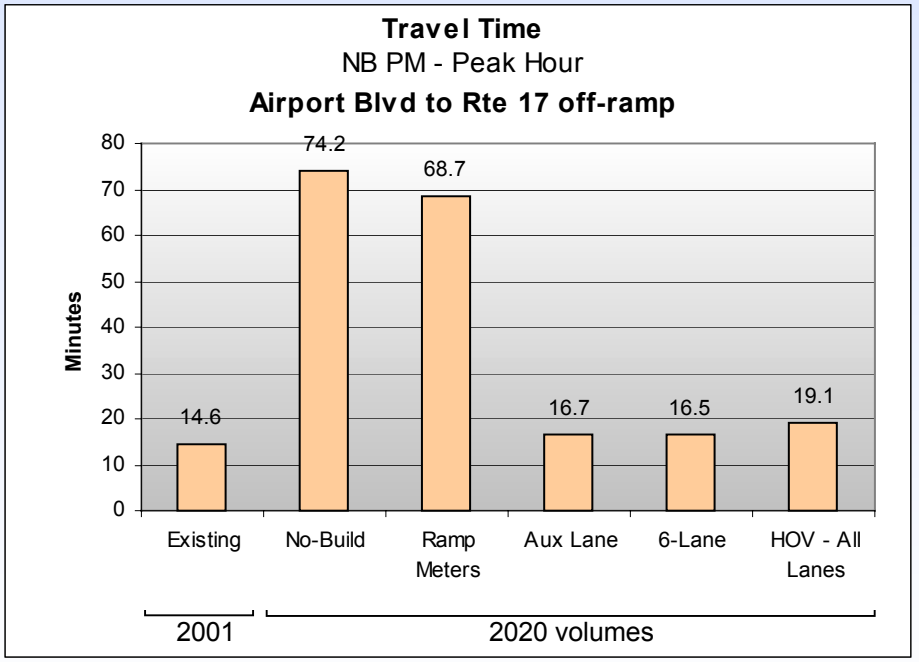


Green = Uncongested (v/c < 0.9) Blue = Near Capacity (0.9 < v/c < 1.0) Yellow = At Capacity (v/c = 1) Orange = Congested Flow

Northbound PM

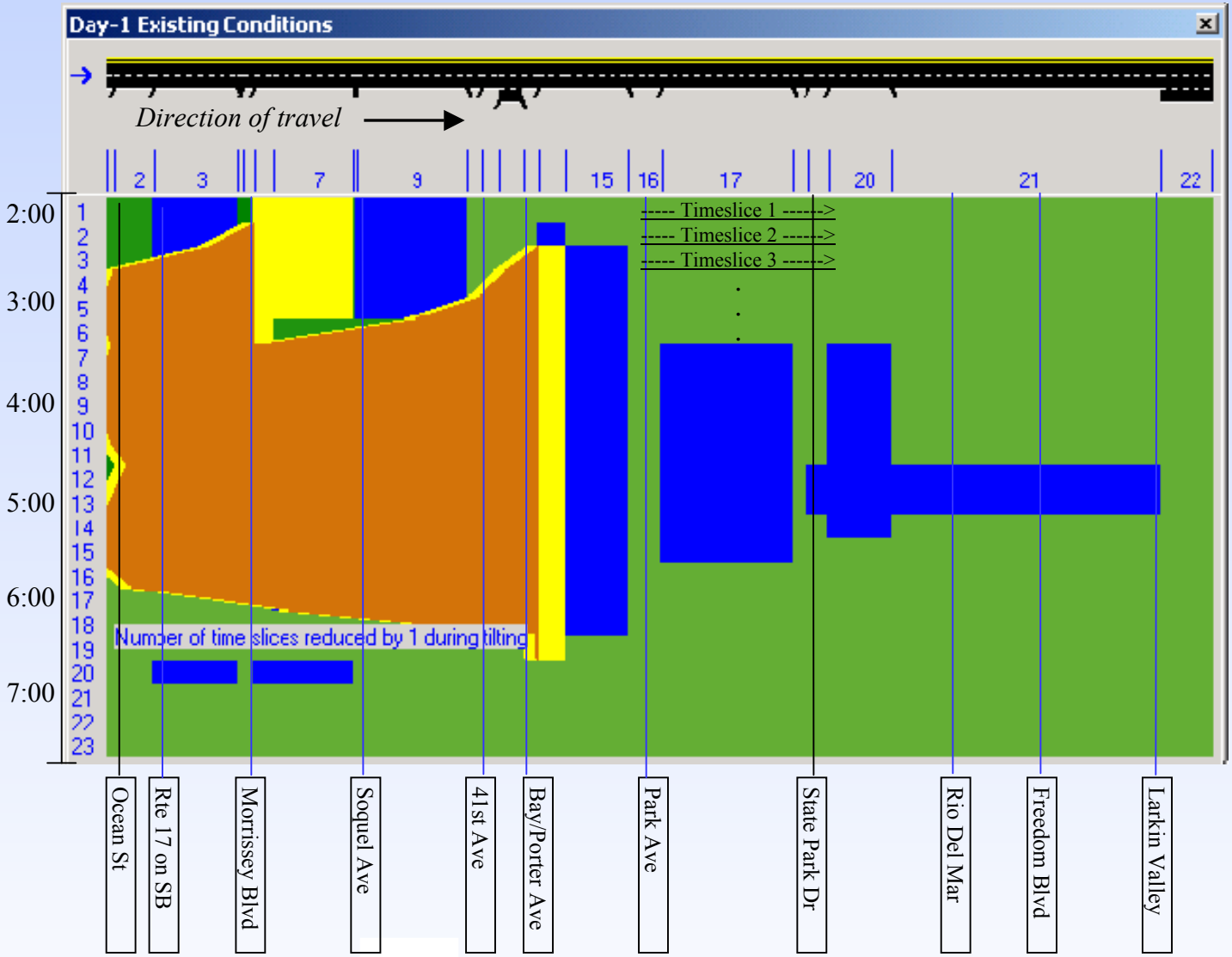






*during the 6 hour peak period (2pm-8pm)

Sample FREQ Output - *Southbound*



Legend

Green = Uncongested flow

Blue = Near Capacity

Yellow = At Capacity

Orange = Congested Flow

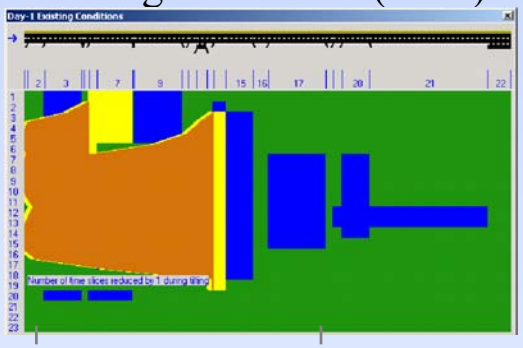
Scale

0 1 2 3 6 miles

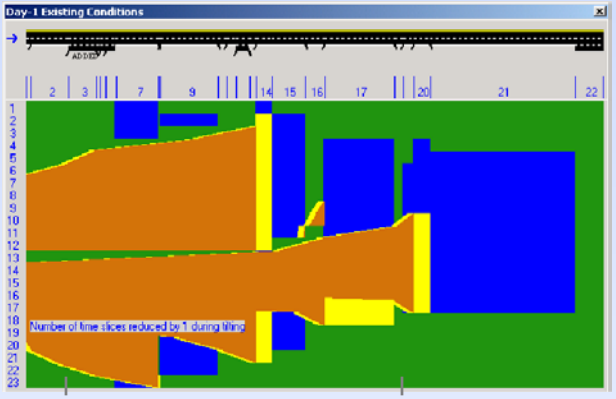
Southbound PM - With widening to State Park Drive

Alternatives Analysis (with 2020 Volumes)

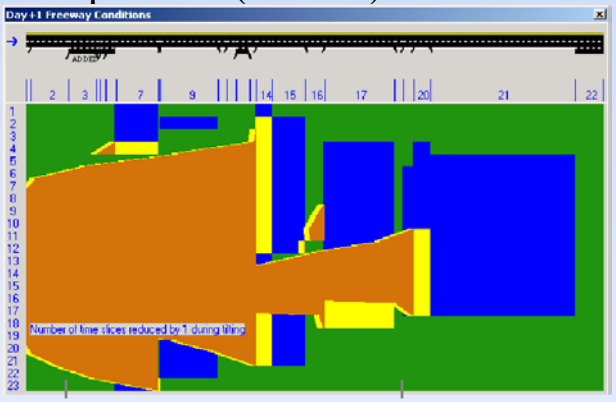
Existing Conditions (2001)



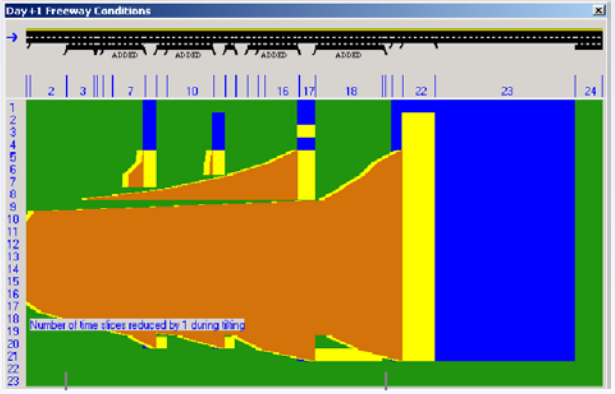
No-Build



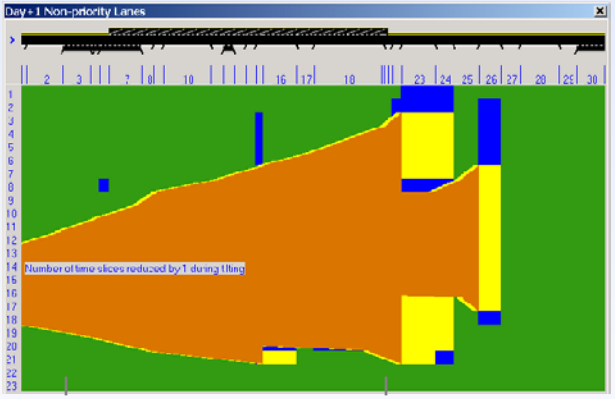
Ramp Meter (4-Lane)



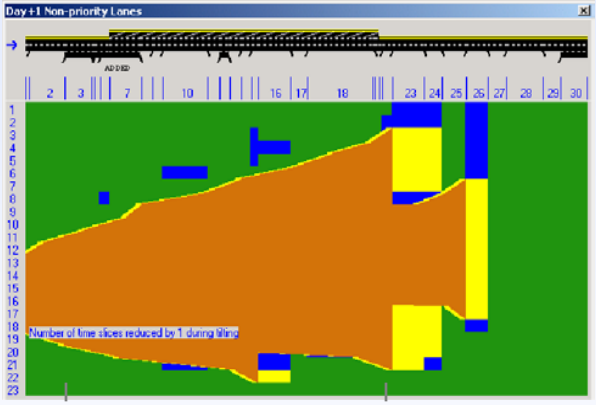
Auxiliary Lane



6-Lane Mixed Flow*



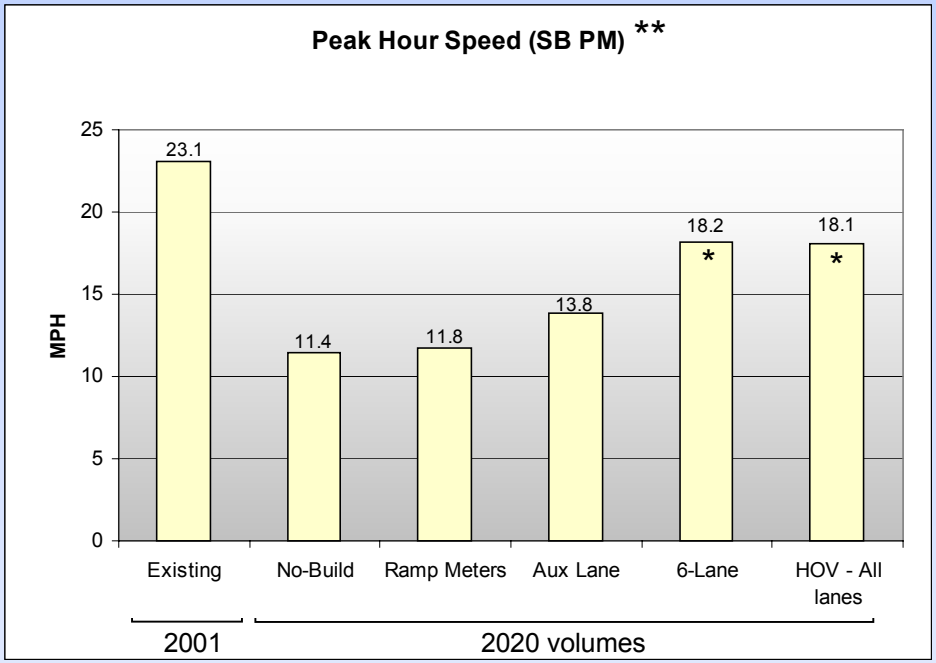
HOV (Mixed Flow Lanes)*

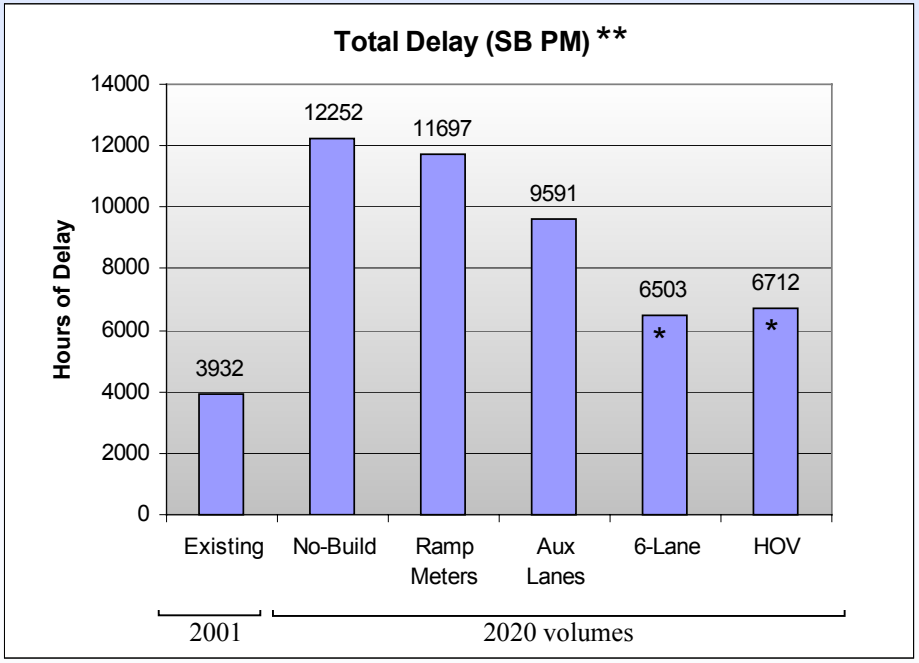


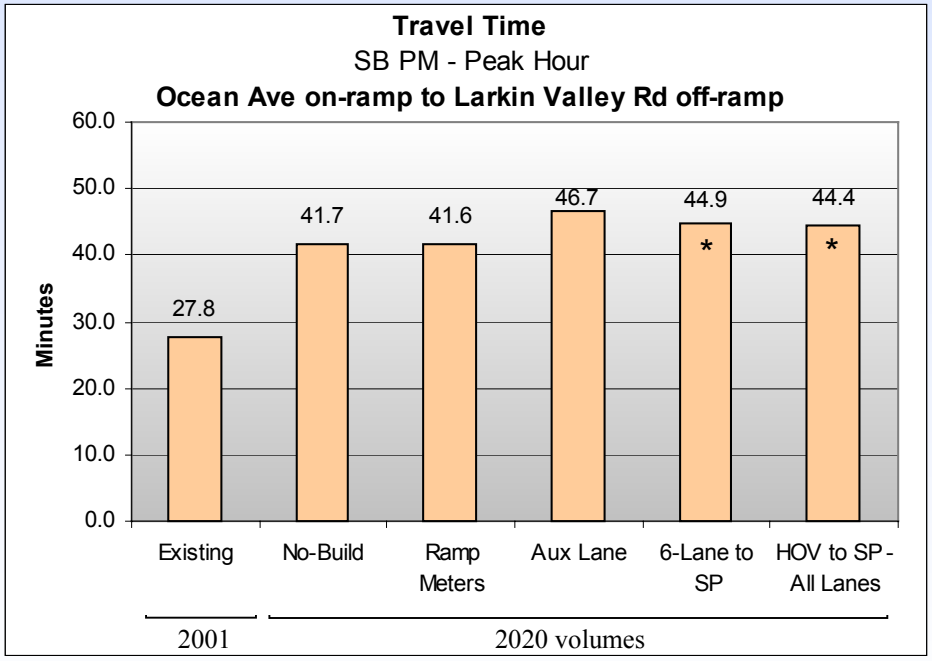
*Extended only to State Park Drive

Green = Uncongested (v/c < 0.9) Blue = Near Capacity (0.9 < v/c < 1.0) Yellow = At Capacity (v/c = 1) Orange = Congested Flow

Southbound PM







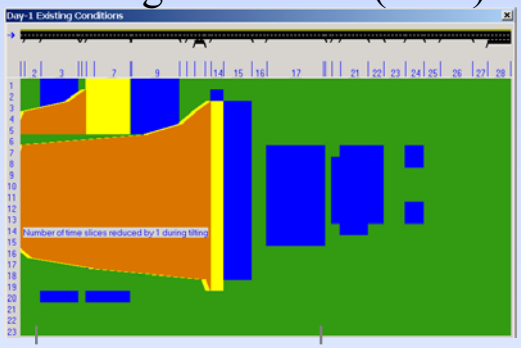
**during the 6 hour peak period (2pm-8pm)

*Additional lane terminates at State Park Drive

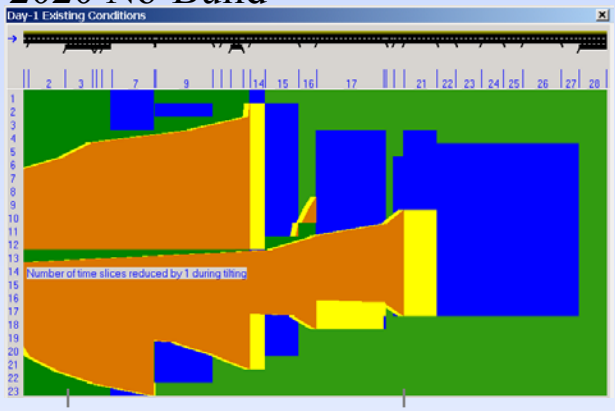
Southbound PM - With widening to Larkin Valley/San Andreas

Alternatives Analysis (with 2020 Volumes)

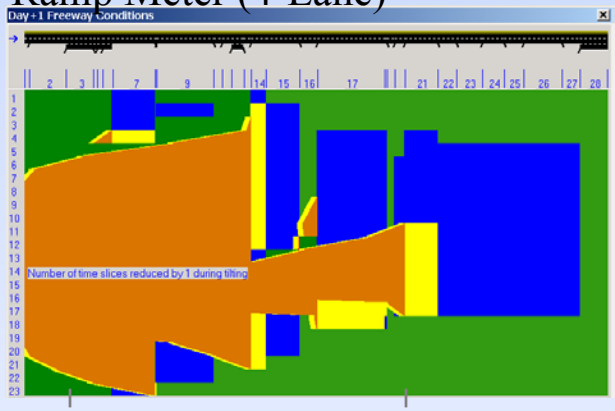
Existing Conditions (2001)



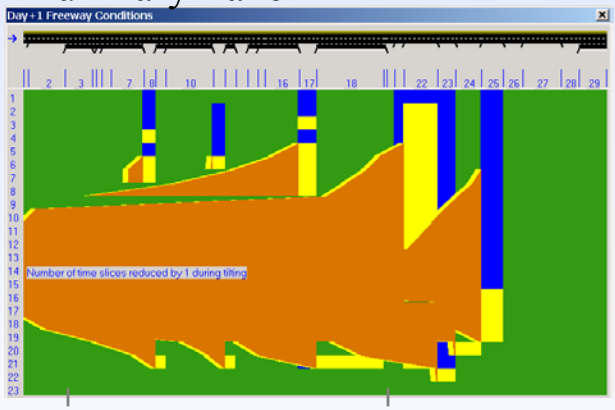
2020 No-Build



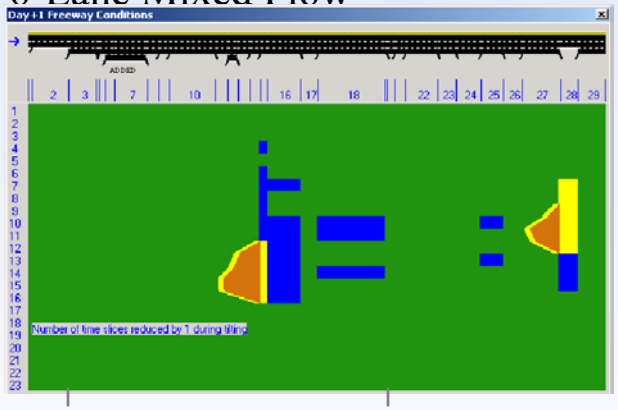
Ramp Meter (4-Lane)



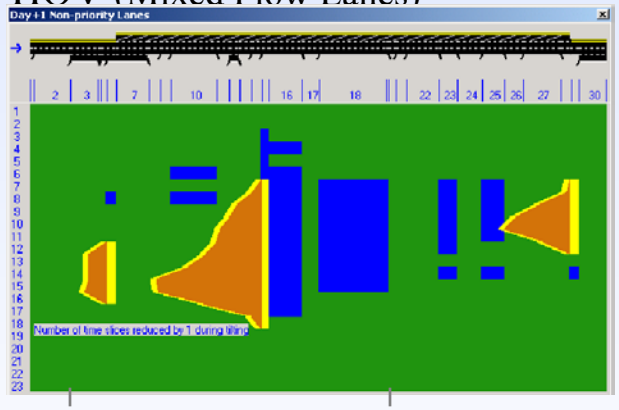
Auxiliary Lane



6-Lane Mixed Flow*



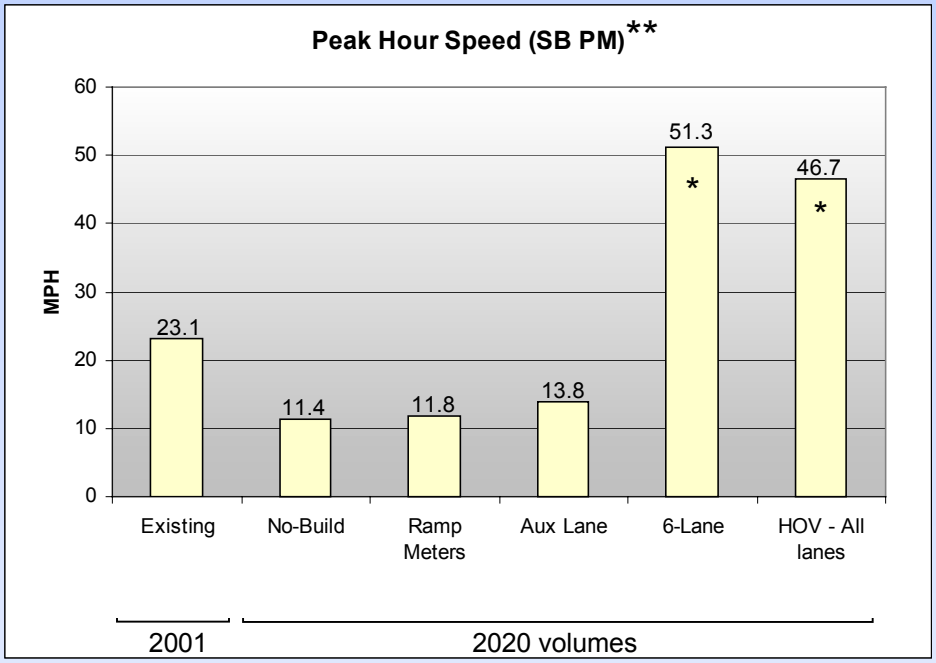
HOV (Mixed Flow Lanes)*

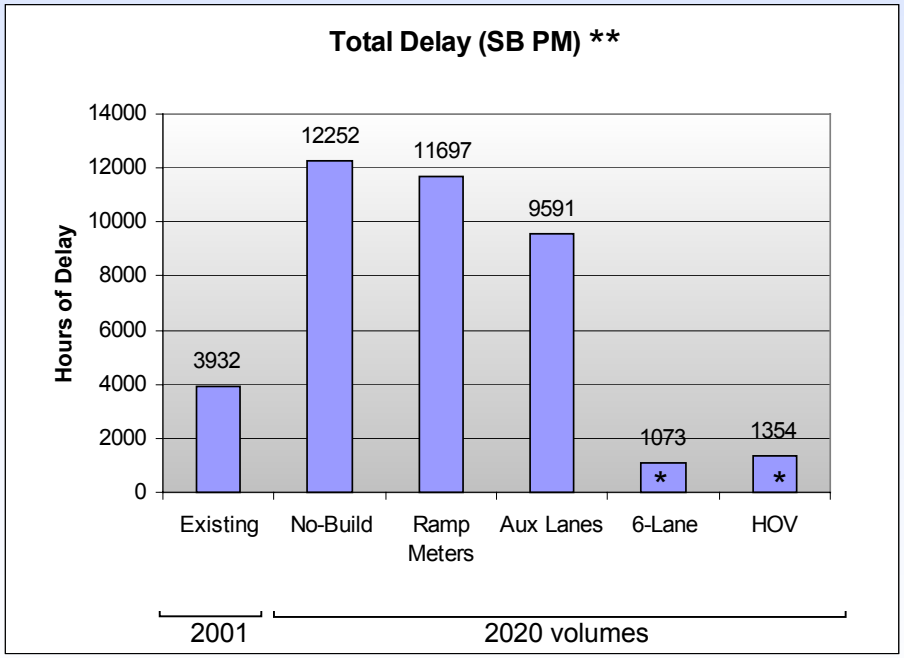


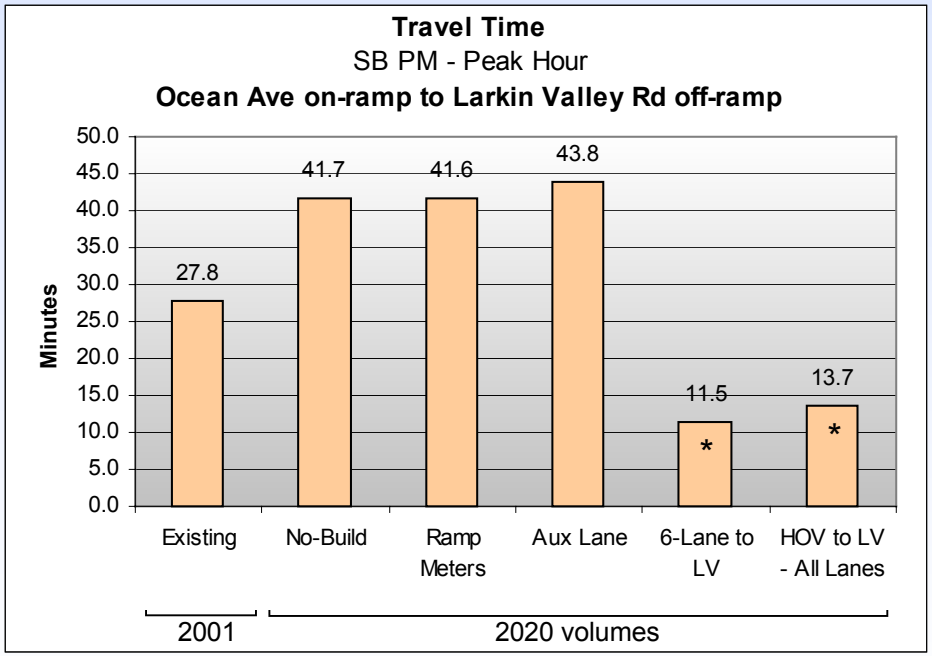
*Extended to Larkin Valley Road

Green = Uncongested (v/c < 0.9) Blue = Near Capacity (0.9 < v/c < 1.0) Yellow = At Capacity (v/c = 1) Orange = Congested Flow

Southbound PM







**during the 6 hour peak period (2pm-8pm)

*Extended to Larkin Valley/San Andreas